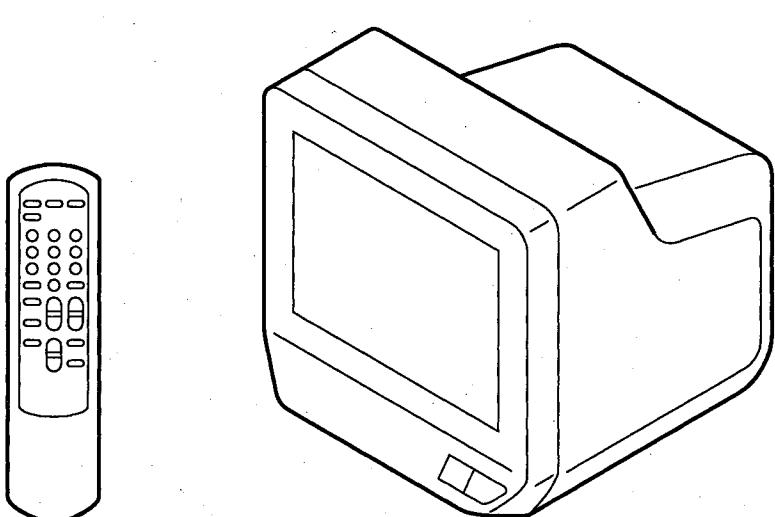


# SERVICE MANUAL

BN-1 CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-9PT50	RM-Y116	US	SCC-J58A-A				
KV-9PT50	RM-Y116	CND	SCC-J59A-A				
KV-9PT60	RM-Y116	US	SCC-J58B-A				
KV-9PT60	RM-Y116	CND	SCC-J59B-A				



TRINITRON® COLOR TV  
**SONY®**

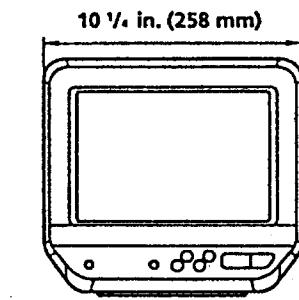
\* Please file according to model size. ....

## SPECIFICATIONS

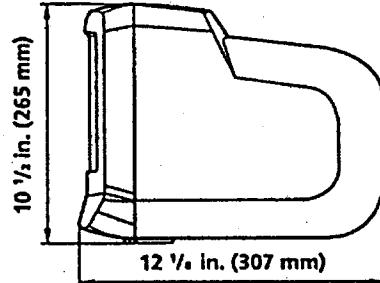
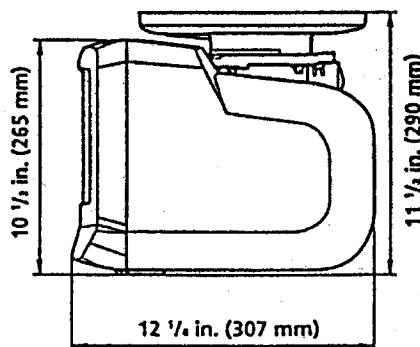
**Television system**  
 American TV standard, NTSC color  
**Channel coverage**  
 VHF: 2-13/UHF: 14-69/CATV: 1-125  
**Screen size**  
 9-inch picture measured diagonally  
**Antenna**  
 VHF/UHF telescopic antenna  
**Speaker**  
 77 mm round (3 1/8 inches), 1 W  
**Inputs**  
 VIDEO: RCA phono-type 1 Vp-p,  
 75 ohms  
 AUDIO: RCA phono-type monaural  
 VHF/UHF (Combined CATV/VHF/  
 UHF 75-ohm, F-type)  
**Output**  
 Headphone jack (monaural)  
**Dimensions**

**Power requirements**  
 KV-9PT50: 120 V AC, 60 Hz  
 KV-9PT60: 120 V AC, 60 Hz, 12 V DC  
**Power consumption**  
 KV-9PT50: AC IN 53 W max.  
 KV-9PT60: AC IN 53 W max.  
 DC IN 53 W max.  
**Mass**  
 KV-9PT50: 5.5 kg (12 lb 2 oz)  
 KV-9PT60: 5.7 kg (12 lb 9 oz)  
**Supplied accessories**  
 Remote commander RM-Y116  
 Size AA batteries (2)  
 Telescopic antenna (1)  
 KV-9PT50 only: Dual mode swivel  
 bracket (1), Attachment parts (1), Paper  
 pattern (1)  
 KV-9PT60 only: AC power cord (1), Car  
 battery cord DCC-22AW (1)

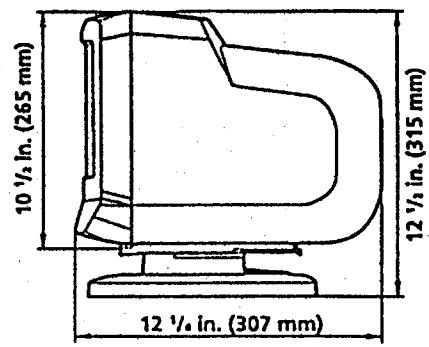
Design and specifications are subject to  
change without notice.



When the bracket is attached to  
the upper part of the TV



When the bracket is attached  
to the lower part of the TV



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COMMANDER .....	24		ATTENTION!!			
(CAUTION)			AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHASSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISE LORS DE TOUT DEPANNAGE. LE CHASSIS DE CE RECEPTEUR EST DIRECTEMENT RACCORDE A L'ALIMENTATION SECTEUR.			
SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.			ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!			
WARNING!!						
AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.						
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.						
SAFETY-RELATED COMPONENT WARNING!!						
COMPONENTS IDENTIFIED BY SHADING AND MARK ! ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.						
LES COMPOSANTS IDENTIFIÉS PAR UNETRAME ET PAR UNE MARQUE ! SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÈCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÈCE EST INDUIT DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIÉS DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.						

## SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer :

1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

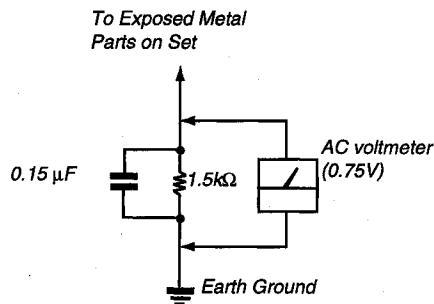


Fig. A. Using an AC voltmeter to check AC leakage.

### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microamper). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low voltage scale. The Simpson 250 and Sanwa SH63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

### HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60/100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

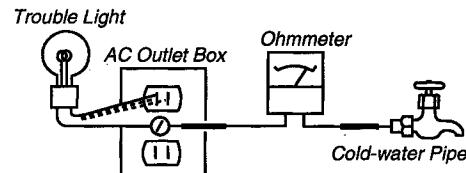


Fig. B. Checking for earth ground.

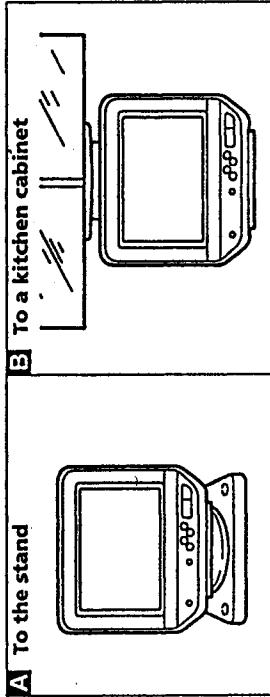
## SECTION 1 GENERAL

### Setting up

#### Setting up the KV-9PT50

##### Attaching the TV

You can install the TV to the stand (bracket) in two ways with the supplied dual mode swivel bracket.

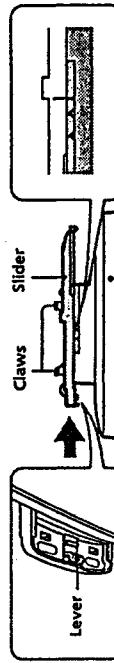


##### Caution

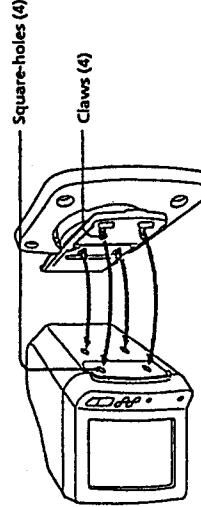
Do not install the TV with wet hands, or touch the TV and bracket with wet hands.

##### A To attach the TV to the stand

1 While holding up the lever, push the slider in the direction of the arrow.



2 Turn the TV sideways, attach the stand to the TV so that the four claws of the slider fit in the square-holes on the bottom of the TV.

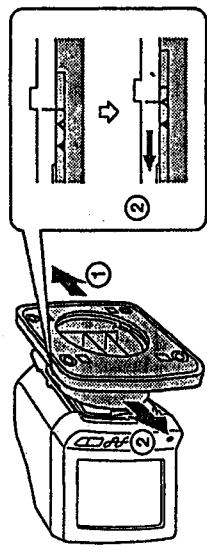


(continue)

##### Setting up

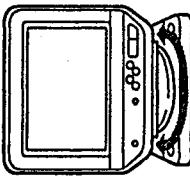
The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

3 ① Push the base in the direction of the arrow ① until the two rear claws on the slider touch the back of the square-holes on the bottom of the TV.



② To lock the bracket and the TV, pull the slider in the direction of the arrow ② while holding up the lever without moving the base.

4 You can rotate the TV about 60° in either direction.



##### B To attach the TV to a kitchen cabinet

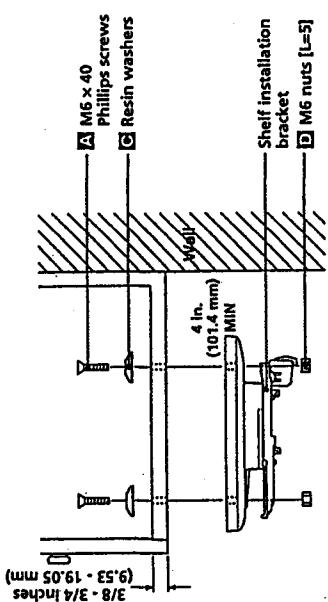
To install the TV to a kitchen cabinet, attach the supplied shelf installation bracket using the attachment parts shown below. The bracket attachment instructions differ depending on the cabinet type (flush or overhanging). Follow the instructions that match your cabinet type.

##### Attachment parts (supplied)

<b>A</b>	M6 nuts (L=5) (4)	M6 x 40 Phillips screws (4)	Spacers (L=30) (4)	Stopper (1)
<b>B</b>	M6 nuts (L=5) (4)	M6 x 40 Phillips screws (4)	Spacers (L=30) (4)	Stopper (1)

Lay the supplied paper pattern on the base of the cabinet (inside or outside), to ensure the proper 4 inches (101.4 mm) distance between the wall and the bracket. Drill 4 holes (diameter: 9/32 inches, 7 mm) where indicated on the pattern. Attach the shelf installation bracket as shown on the following pages.

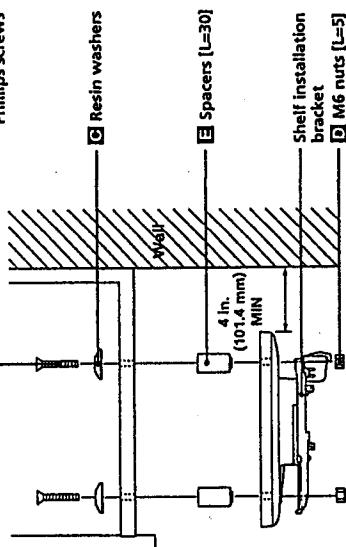
### Attaching to a flush type cabinet



#### Notes

- You cannot attach the shelf installation bracket to a cabinet with a base thickness of less than 3/8 inches (9.53 mm).
- If the cabinet base thickness is over 3/4 inches (19.05 mm), purchase longer screws (#10-32) and nuts at a hardware supply store.

### Attaching to an overhanging type cabinet



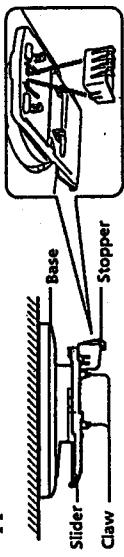
#### Notes

- The spacer is not needed for the cabinet with an overhang of 0 - 1 inch (0 - 25.4 mm).
- The spacer is needed for the cabinet with an overhang of 1 - 2 inches (25.4 - 51 mm).
- You cannot attach the shelf installation bracket to cabinet with an overhang of over 2 1/8 inches (51 mm).

#### Cautions

- When using the shelf installation bracket to attach the TV to a kitchen shelf or cabinet, be sure that the bracket is attached level to the shelf or cabinet base. If the TV is installed to a bracket that is not level, it may fall from the bracket.
- To reduce the risk of fire, do not place any heating or cooking appliance beneath TV.

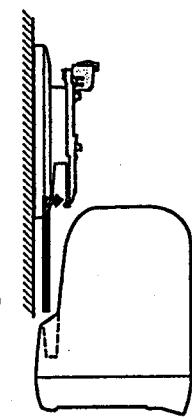
### 1 Attach the stopper to the slider.



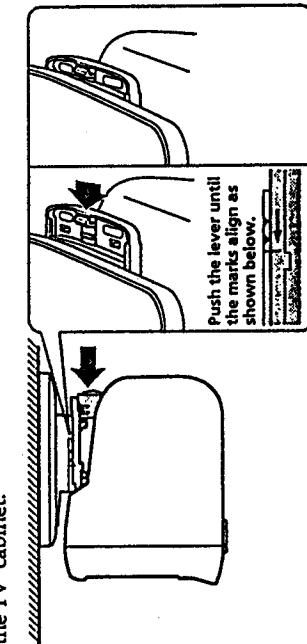
### 2 While holding down the lever, pull the slider in the direction of the arrow.



### 3 Attach the TV temporarily to the slider so that two claws of the bracket base fit in the square-holes located inside of the TV's knob.

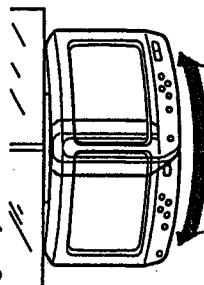


### 4 While holding down the lever, push the slider in the direction of the arrow so that the claws of the stopper fit in the ventilation hole of the TV cabinet.



Make sure that the bracket and the TV are locked completely.

**5** You can rotate the TV about 60° in either direction. Be sure to rotate the TV slowly and gently.



**Caution**

- Take care that a child does not hang on the TV or pull it forcibly.

**Removing the TV**

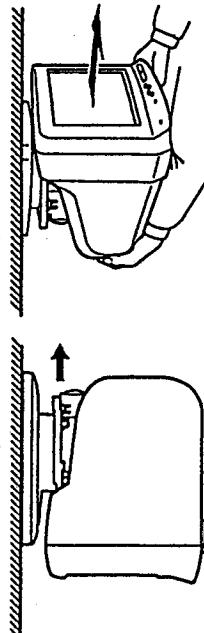
**A To remove the TV from the stand**

- 1 While holding up the lever, push the slider in the direction of the arrow to unlock the bracket and the TV.
- 2 Remove the TV from the stand.



**B To remove the TV from the bracket**

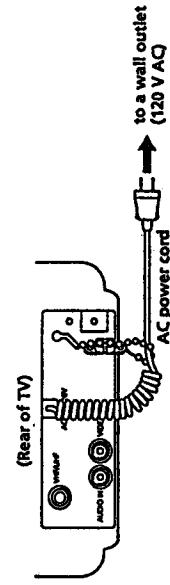
- 1 While holding down the lever, pull the slider in the direction of the arrow to unlock the bracket and the TV.
- 2 Pull the TV toward you to remove the TV from the bracket.



**Caution**

- If you do not support the TV as illustrated, the TV may fall when it separates from the bracket.

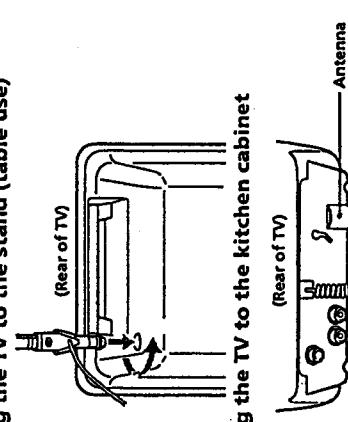
**Using house current**



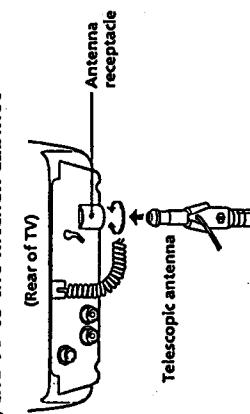
**Connecting the supplied telescopic antenna**

**1** Insert the antenna into the receptacle on the TV, and twist to ensure a secure fit.

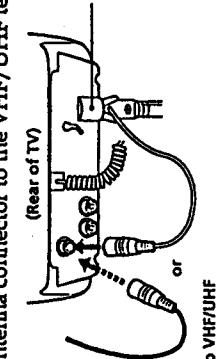
**When attaching the TV to the stand (table use)**



**When attaching the TV to the kitchen cabinet**



**2** Attach the antenna connector to the VHF/UHF terminal.



or  
to VHF/UHF

**Setting up**

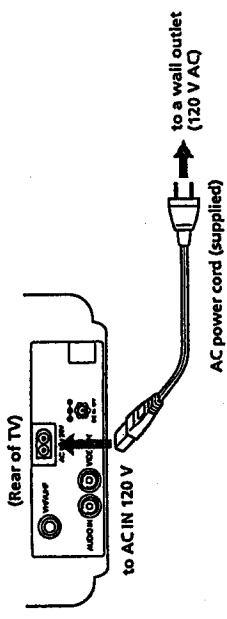
**9EN**

**Setting up**

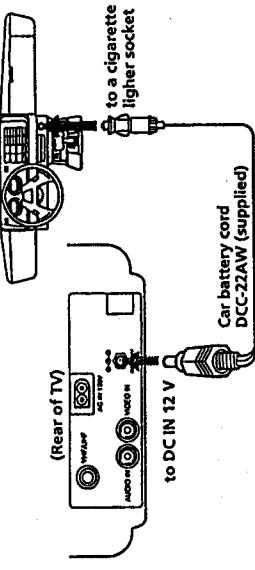
**9EN**

## Setting up the KV-9PT60

### Using house current

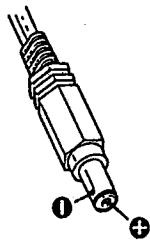


### Using a car battery



#### Notes

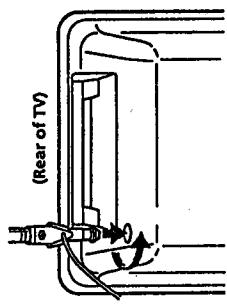
- For car use, the TV is designed for negative ground 12 V DC operation only.
- Use only the supplied car battery cord manufactured by Sony. Polarity of the plugs of other manufacturers may be different.



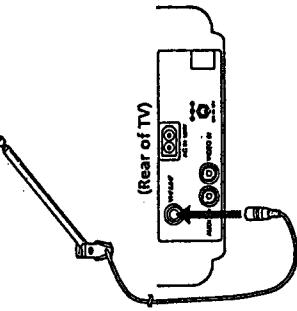
- When you aren't using the TV, remove the car battery cord from the cigarette lighter socket.

## Connecting the supplied telescopic antenna

- 1 Insert the antenna into the receptacle on the TV, and twist to ensure a secure fit.



- 2 Attach the antenna connector to the VHF/UHF terminal.



## Connections

Select one of the two ways to connect the TV to the antenna and/or cable system. It is recommended to connect an outdoor antenna or a cable TV system for better picture quality.

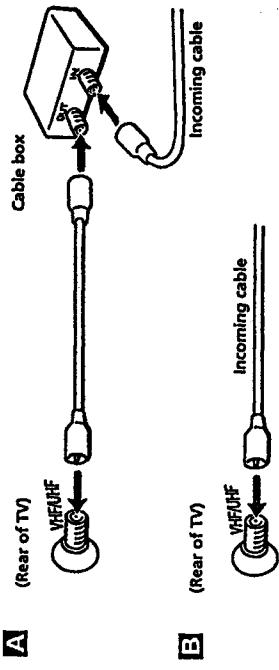
### Connecting to outdoor antenna

Connect the antenna cable to the VHF/UHF antenna terminal. If the antenna cable cannot be connected directly to the jack, follow one of the diagrams below, depending on the type of cable you have.

#### Notes

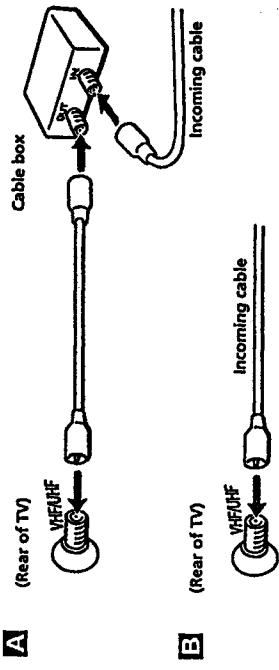
- Do not use tools to attach the cable to the VHF/UHF terminal. Doing so may damage the terminal.
- Most VHF/UHF combination antennas have a signal splitter. Remove the splitter before attaching the appropriate connector.
- If the U/V mixer is used, snow and noise may appear in the picture when viewing cable TV channels over 37.

If your cable company requires you to connect a cable box, follow example **A**. If not, follow example **B**.



### Connecting to cable TV system

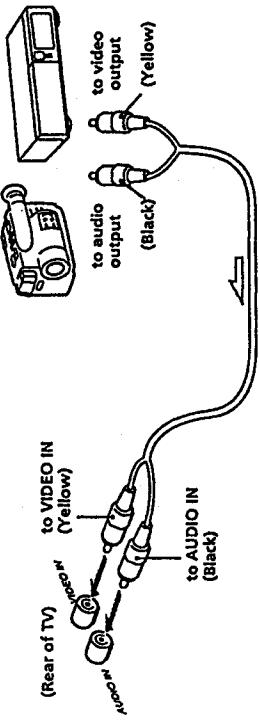
If your cable company requires you to connect a cable box, follow example **A**. If not, follow example **B**.



### Connecting video equipment

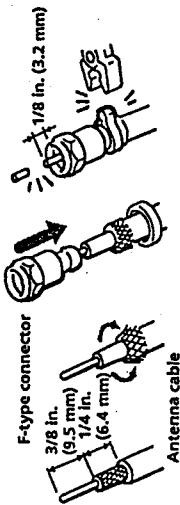
Before connecting, turn off the power on all equipment.

#### Connecting a VCR or 8mm video camera



**Note**  
When connecting stereo equipment, use the VMC-920MS (not supplied) connecting cable (stereo → monaural).

### Attaching an F-type connector to the antenna cable



### Watching a VCR picture

- 1 Turn on the TV.
- 2 Press TV/VIDEO so that "VIDEO" appears on the screen.

To return to TV mode

Press TV/VIDEO so that a channel number appears on the screen.

### Setting up

14EN

13EN

## Setting up the remote commander

Install two size AA batteries (supplied) as shown.



### Notes

- Match the + and - on the batteries to the diagram inside the battery compartment.
- If you do not use the remote commander for an extended period of time, remove the batteries to avoid possible damage from battery leakage.
- Do not handle the remote commander roughly. Do not drop it, step on it or let it get wet.
- Do not place the remote commander in direct sunlight, near a heater, or where the humidity is high.

Instructions in this manual are based on the remote commander. You can also use the controls on the TV if they have the same name as those on the remote commander.

## Setting cable TV on or off

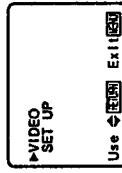
If the TV is connected to a cable TV system, then the factory setting CABLE ON is correct. If the TV is not connected, set CABLE to OFF.

### Note

If more than 90 seconds elapse after you press a button, the menu disappears automatically.

### 1 Press MENU.

The main menu appears.



- 2 Press  $\Delta+$  or  $\nabla-$  on the remote commander to move the cursor ( $\blacktriangleright$ ) on the screen to SET UP. To select that function, press RETURN. The SET UP menu appears.



- 3 Set CABLE to ON or OFF.
  - (1) If the cursor is not beside CABLE, press  $\Delta+$  or  $\nabla-$  to move the cursor and press RETURN.

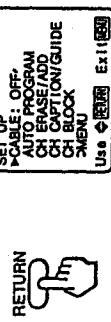


**Note**  
If CABLE appears in black, the TV is set to video input and CABLE cannot be selected. Press TV/VIDEO so that a channel number appears.

(2) Press  $\Delta+$  or  $\nabla-$  to select ON or OFF.



(3) Press RETURN.



4 Press MENU to return to the original screen.



## Presetting channels

TV channels can be preset easily; first, store all the receivable channels automatically by following the procedure below. Next, erase unwanted channels or add additional channels. Preset channels during the day rather than late at night, when some channels may not be broadcasting.

1 Press MENU.



2 Press  $\Delta+$  or  $\nabla-$  on the remote commander to move the cursor ( $\blacktriangleright$ ) on the screen to SET UP and press RETURN. The SET UP menu appears.

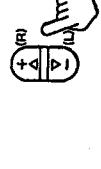
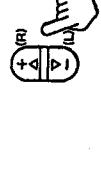


### Note

If AUTO PROGRAM appears in black, the TV is set to video input and AUTO PROGRAM cannot be selected. Press TV/VIDEO so that a channel number appears.

3 Select AUTO PROGRAM.

(1) Press  $\Delta+$  or  $\nabla-$  to move the cursor ( $\blacktriangleright$ ) to AUTO PROGRAM.



(2) Press RETURN.



"AUTO PROGRAM" appears on the screen and the TV starts scanning and presetting channels automatically. When all the receivable channels are stored, "AUTO PROGRAM" disappears and the lowest numbered channel is displayed.

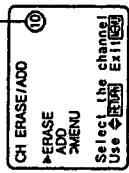
Setting up | 17 EN

18 EN | Setting up

**Erasing or adding channels**

- 1 Press MENU.
- 2 Press  $\Delta+$  or  $\nabla-$  to select SET UP and press RETURN.
- 3 Press  $\Delta+$  or  $\nabla-$  to select CH ERASE/ADD and press RETURN.
- 4 To erase an unwanted channel:
  - (1) Press CH +/ - to select the channel you want to erase.
  - (2) Make sure the cursor ( $\blacktriangleright$ ) is beside ERASE.

Channel to be erased



- (3) Press RETURN.
- The indication “-” appears beside the channel number, showing that the channel is erased from the preset memory.

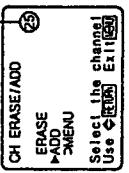
**Note**

You can select the erased channel using the 0-9 buttons.

To add a channel that you want:

- (1) Press 0-9 buttons to select the channel you want to add and press ENTER.
- (2) Press  $\Delta+$  or  $\nabla-$  to select ADD.

Channel to be added



- (3) Press RETURN.
- The indication “+” appears beside the channel number, showing that the channel is added to the preset memory.

- 5 To erase and/or add other channels, repeat step 4.

- 6 When finished, press MENU.

**Note**  
If you erase or add a VHF or UHF channel, the cable TV channel with the same number is also erased or added, and vice versa.

**Setting up****Functions**

**Note**  
If “VIDEO” appears on the screen, press TV/VIDEO so that a channel number appears.

**Selecting a channel directly**

Press the 0-9 buttons to select a channel. Or press ENTER after entering the channel for immediate selection.

**To scan through channels**

Press CH +/ - until the channel you want appears.

**Switching quickly between two channels**

Press JUMP.

The channel you watched previously appears. Pressing JUMP again switches back to the original channel.

**Adjusting the volume**

Press VOL +/ - to adjust the volume.

**Setting up****Available Features**

20EN

## Muting the sound

Press MUTING.

"MUTING" appears on the screen.



To restore the sound, press MUTING again, or press VOL +.

## Displaying on-screen information

Use this feature to check your channels.  
Press DISPLAY.



To cancel the display, press DISPLAY again.

## Setting the Sleep Timer

The TV stays on for the length of time specified and then shuts off automatically.

Press SLEEP repeatedly until the time (minutes) wanted appears. Each time you press SLEEP, the time changes as follows: 30  $\leftrightarrow$  60  $\leftrightarrow$  90  $\leftrightarrow$  OFF. "SLEEP" appears on the screen one minute before the TV power is shut off.



To cancel the Sleep Timer, press SLEEP repeatedly until "SLEEP OFF" appears, or turn the TV off.

## Listening with headphones

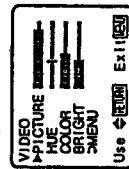
Plug the headphones into the headphone jack. The sound from the speaker is shut off and the monaural sound will be heard from the headphones. To adjust the headphones volume, press VOL +/-. 

## Adjusting the picture

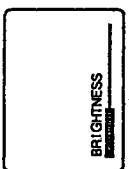
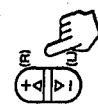
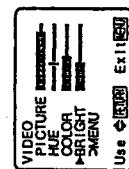
When watching TV programs, the quality of the picture can be adjusted to suit your taste.

1 Press MENU.

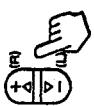
2 Make sure the cursor (►) is beside VIDEO and press RETURN.



3 Select the item to adjust. See chart on following page for details on results of adjustments. For example:  
To adjust brightness, press  $\Delta$ + or  $\nabla$ - to select BRIGHT and press RETURN.



4 Adjust the level:  
(1) Press  $\Delta$ + or  $\nabla$ - to adjust the level.



(2) Press RETURN.  
The new setting appears in the VIDEO menu.  
5 To adjust other items, repeat steps 3 and 4 above.

Available Features | 21EN

22EN | Available Features

## Description of adjustable items

Item	Adjustment
PICTURE	Press <b>Δ+ to</b> Increase picture contrast for vivid color
HUE	Press <b>▽- to</b> Decrease picture contrast for soft color
COLOR	Press <b>▽- to</b> Make skin tones become greenish
BRIGHT	Press <b>▽- to</b> Increase color intensity
	Press <b>▽- to</b> Brighten the picture
	Press <b>▽- to</b> Decrease color intensity
	Press <b>▽- to</b> Darken the picture

## Customizing the channel number buttons

Up to 12 channels can be captioned and assigned to a specific channel number button for each channel. This feature allows the easy selection of your favorite channels by name. For example, select channel 17 ("ESPN," and assign the channel number 2 button to it.

## Setting captions to a favorite channel

- 1 Press MENU.
- 2 Press  $\Delta$ + or  $\nabla$ - to select SET UP and press RETURN.
- 3 Press  $\Delta$ + or  $\nabla$ - to select CH CAPTION/GUIDE and press RETURN.

**To restore the factory settings**  
Press RESET while the VIDEO menu is displayed. All the settings except PICTURE are restored to factory settings.

**Adjusting the picture when watching video tapes**  
You can adjust the picture of the video input as well. These settings are stored separately from those for the TV picture.

To adjust the video picture, first press **TV/VIDEO** to set to video input, then follow the procedure on the previous Page.

5 Press  $\Delta$ + or  $\nabla$ - to select a channel guide number (chosen number will appear in red) and press RETURN.  
For example, select 2 as the channel guide number.  
Numbers 0-9, DISPLAY and ENTER buttons are available for use as a channel guide number. The channel number button you select will be the one you press to call up your favorite channel.

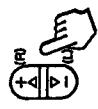
6 Press  $\Delta$  + or  $\nabla$  - to select the channel that you want to caption and press RETURN. For example, select channel 17.

## Available Features

## *Available Features*

**7** Enter the letters (up to four) to caption the channel.  
 (1) Press  $\Delta+$  or  $\nabla-$  to select the first letter.  
 Each time you press  $\Delta+$  or  $\nabla-$ , the letter changes as shown below.

0→1→...→9→A→B→...→Z→&→/→→→→ (blank space)



(2) Press RETURN.



(3) Repeat steps (1) and (2) to select the remaining letters and press RETURN.



(4) Repeat step 4 to 7 to caption other channels.

#### To cancel a setting

Select the channel you want to cancel in step 5, then press RESET.

#### Selecting a captioned channel

**1** Press CH GUIDE.  
 The CHANNEL GUIDE menu appears showing channel captions and the corresponding channel number buttons.

**2** Press a channel number button, the DISPLAY or ENTER button to select the channel you want.

To cancel the CHANNEL GUIDE menu  
 Press CH GUIDE again.

## Blocking out a channel (CHANNEL BLOCK)

This feature allows you to prevent children from watching unsuitable programs.

**1** Press MENU.

**2** Press  $\Delta+$  or  $\nabla-$  to select SET UP and press RETURN.

**3** Press  $\Delta+$  or  $\nabla-$  to select CH BLOCK and press RETURN.



**4** Select the channel you want to block.

(1) Press  $\Delta+$  or  $\nabla-$  to select program 1 or 2 and press RETURN.  
 The selected channel indication turns red.



(2) Press  $\Delta+$  or  $\nabla-$  to select the channel you want to block and press RETURN.



**5** Repeat step 4 to 5 to block other channels.

If you select the blocked channel when watching the TV,  
 "BLOCKED" appears and the picture is blocked and the sound is muted.

To cancel a channel block  
 Press RESET in step 3.

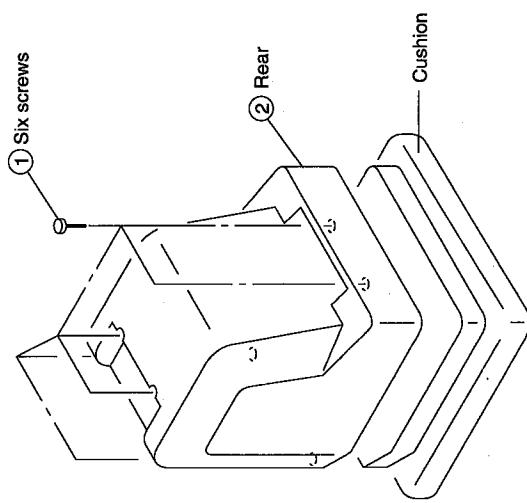
## Troubleshooting

If trying the remedies below, the problem is not corrected, contact your nearest Sony dealer.

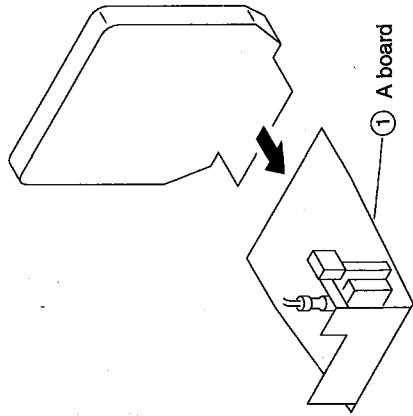
Problem	Adjustment
Poor or no picture (screen lit), good sound	<ul style="list-style-type: none"> <li>Adjust PICTURE in the VIDEO menu.</li> <li>Adjust BRIGHT in the VIDEO menu.</li> <li>Check antenna /cable connections.</li> </ul>
No picture (screen not lit), no sound	<ul style="list-style-type: none"> <li>Make sure the power cord is connected securely.</li> <li>Check to see if the TV /VIDEO setting is correct. When watching TV, set to TV, and when watching video tapes, set to VIDEO or the channel you use for watching video.</li> <li>Try another channel. It could be station trouble.</li> </ul>
No color	<ul style="list-style-type: none"> <li>Adjust COLOR in the VIDEO menu.</li> <li>Black and white programs cannot be seen in color.</li> </ul>
Only snow and noise appear on the screen	<ul style="list-style-type: none"> <li>Check the CABLE setting in the SET UP menu.</li> <li>Check the antenna /cable connection.</li> <li>Make sure the channel is broadcasting programs.</li> </ul>
Dotted lines or stripes	<ul style="list-style-type: none"> <li>Adjust the antenna.</li> <li>Move the TV away from noise sources such as cars, neon signs, and hair-dryers.</li> </ul>
Double images or ghosts	<ul style="list-style-type: none"> <li>Use a highly directional outdoor antenna or a cable TV cable (when the problem is caused by reflections from nearby mountains or tall buildings).</li> </ul>
The picture is distorted (DC operation)	<ul style="list-style-type: none"> <li>When the car battery voltage drops too low, the picture may be distorted. Use the TV with the engine running.</li> </ul>
Cannot operate menu	<ul style="list-style-type: none"> <li>The menu disappears automatically when 90 seconds elapse after you press a button.</li> <li>If the menu items appear in black, the TV is set to video input and you cannot operate the menu. Press TV /VIDEO until a channel number appears.</li> </ul>
The remote commander does not operate	<ul style="list-style-type: none"> <li>Insert the batteries in the remote commander with the correct polarity.</li> <li>Replace the batteries with new ones if they are weak.</li> <li>If there is a fluorescent light close to the TV, move it at least 3-4 feet away from the TV.</li> </ul>
The TV needs to be cleaned.	<ul style="list-style-type: none"> <li>Clean the TV with a soft dry cloth. Never use strong solvents such as thinner or benzine, which might damage the finish of the cabinet.</li> </ul>

## SECTION 2 DISASSEMBLY

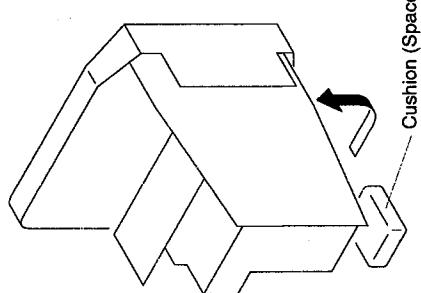
### 2-1. CHASSIS ASSY REMOVAL



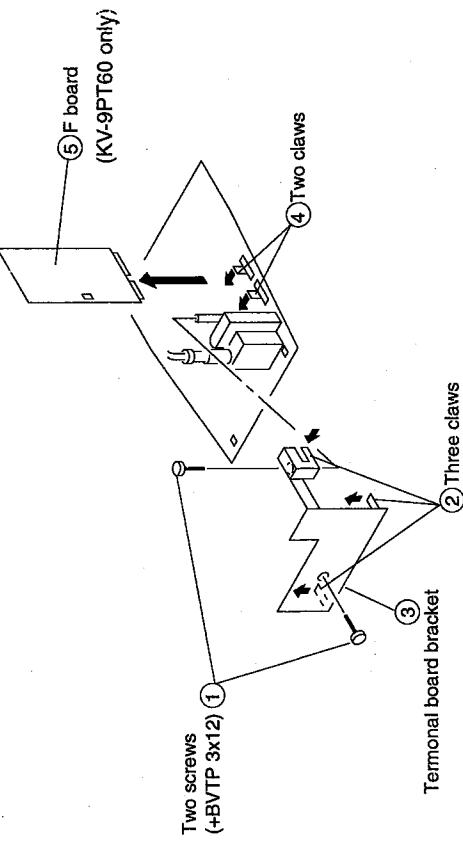
### 2-3. A BOARD REMOVAL



### 2-2. SERVICE POSITION



### 2-4. F BOARD REMOVAL

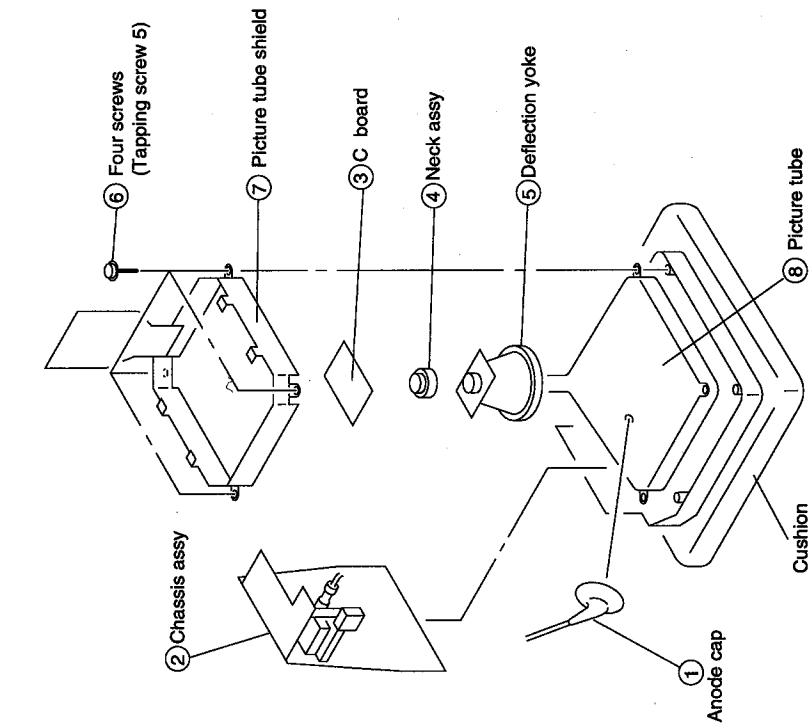


## 2-5. PICTURE TUBE REMOVAL

### • REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis. CRT shield or carbon painted on the CRT, after removing the anode.

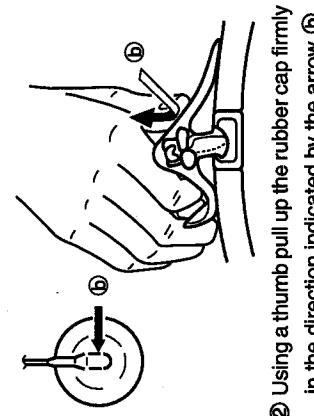
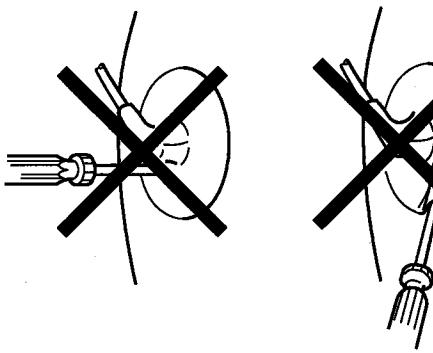
### • REMOVING PROCEDURES



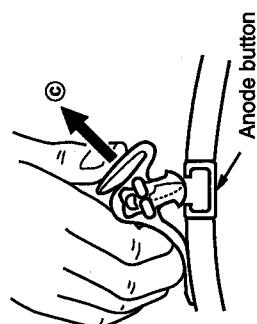
### • HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps! A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly! The shatter-hook terminal will stick out or hurt the rubber.

① Turn up one side of the rubber cap in the direction indicated by the arrow ⑧.



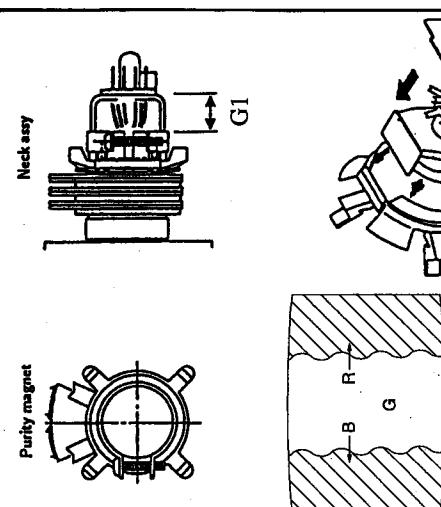
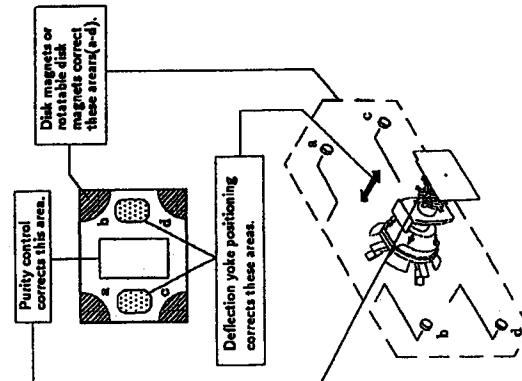
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⑨.

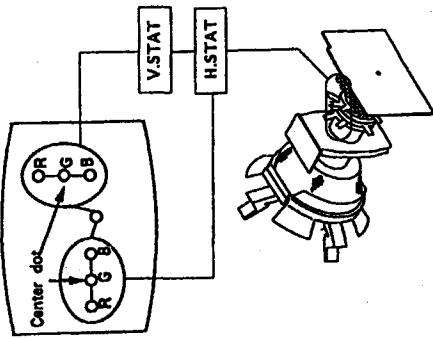
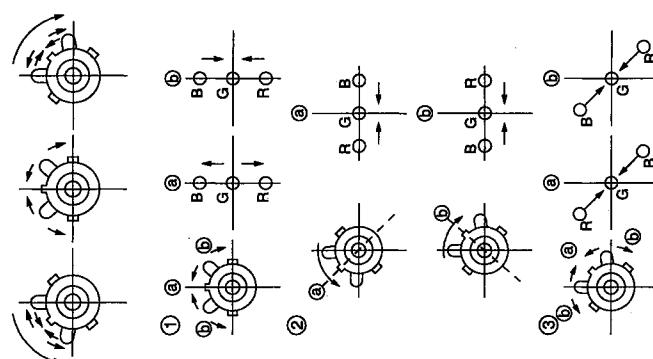


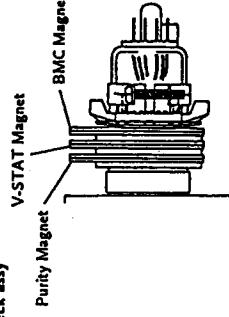
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⑩.

## SECTION 3

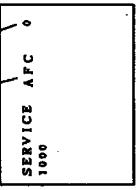
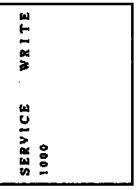
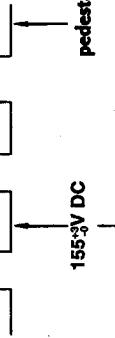
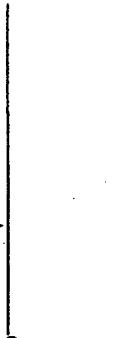
### SET-UP ADJUSTMENTS

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
<ul style="list-style-type: none"> <li>The following adjustments should be made when a complete realignment is required or a new picture tube is installed.</li> <li>These adjustments should be performed with rated power supply voltage unless otherwise noted.</li> </ul>	<p>The controls and switch should be set as follows unless otherwise noted :</p> <p>PICTURE control ..... Normal BRIGHTNESS control ..... normal</p> <p><b>Preparation:</b></p> <ul style="list-style-type: none"> <li>In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.</li> <li>Switch on the set's power and degauss with the degausser.</li> </ul>			
				
				<p><b>BEAM LANDING</b></p> <p>White Pattern</p> <ol style="list-style-type: none"> <li>1. Input a white pattern signal with the pattern generator.</li> <li>2. Position neck ass'y as shown in Fig.</li> <li>3. Loosen the deflection yoke mounting screw, and set the purity control to the center.</li> <li>4. Turn the green pattern signal of the pattern generator to green.</li> <li>5. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are at the sides evenly.</li> <li>6. Move the deflection yoke forward, and adjust so that the entire screen becomes green.</li> <li>7. Switch over the raster signal to red and blue and confirm the condition.</li> <li>8. When the position of the deflection yoke is determined, tighten it with the deflection yoke mounting screw.</li> <li>9. When landing at the corner is not right, adjust by using the disk magnets.</li> </ol> <p>Green Pattern</p> <p>Purity Control</p> <p>Deflection Yoke</p> <p>Disk Magnets</p>

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
<p><b>CONVERGENCE</b></p> <p><b>Preparation:</b></p> <ul style="list-style-type: none"> <li>Before starting, perform FOCUS, V. LIN and V. SIZE adjustments.</li> <li>Set BRIGHTNESS control to minimum.</li> <li>Feed in dot pattern signal.</li> </ul> <p><b>(1) Horizontal and Vertical Static Convergence</b></p> <p><b>Adjustment</b></p> <ol style="list-style-type: none"> <li>(Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.</li> <li>(Moving horizontally), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.</li> <li>Tilt the V.STAT magnet and adjust static convergence by opening or closing the V.STAT magnet.</li> <li>When the V-static magnet is moved in the direction of arrow ④ and ⑤, red, green and blue dots move as shown below.</li> </ol>	Dot Pattern	V. STAT Magnet	 	

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
<ul style="list-style-type: none"> <li>Operation of BMC Magnet</li> <li>The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.</li> </ul> <p>Use the V-static tabs to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).</p> <ul style="list-style-type: none"> <li>Y separation axis correction magnet adjustment           <ol style="list-style-type: none"> <li>Receive a cross hatch signal, and adjust PICTURE and BRIGHTNESS.</li> <li>Adjust the deflection yoke to the upright condition when it hits the CRT.</li> <li>Adjust so that the Y separation Axis correction magnet on the neck assembly is symmetrical at the top and bottom (open state).</li> <li>Return the deflection yoke to its original position.</li> </ol> </li> </ul>	BMC Magnet			

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
<b>(2) Dynamic Convergence Adjustment</b> <b>Preparation:</b> <ul style="list-style-type: none"> <li>Before starting perform Horizontal and Vertical static convergence Adjustment.</li> </ul>			Deflection Yoke	
<b>(3) Screen-corner Convergence Adjustment</b> <b>Preparation:</b> <ul style="list-style-type: none"> <li>Slightly loosen deflection yoke screw.</li> <li>Remove deflection yoke spacers.</li> <li>Move the deflection yoke for best convergence as shown below.</li> <li>Tighten the deflection yoke screw.</li> <li>Install the deflection yoke spacers.</li> </ul>			Permalloy Ass'y	
			FOCUS control	

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
<b>METHOD OF SETTING THE SERVICE ADJUSTMENT SERVICE MODE PROCEDURE</b>				<p>SERVICE ADJUSTMENT MODE IN</p> 
<p>1. Standby mode. (Power off)</p> <p>2. <b>DISPLAY</b> → <b>5</b> → <b>VOL (+)</b> → <b>POWER</b> on the *Remote Commander. Press each button within a second.</p> <p>3. The CRT display the item Being adjusted.</p> <p>4. Press <b>1</b> or <b>4</b> on the Remote Commander to select the item.</p> <p>5. Press <b>3</b> or <b>6</b> on the Remote Commander to change the data.</p> <p>6. Press <b>MUTING</b> then <b>ENTER</b> to write into memory.</p> <p>7. Press <b>8</b> then <b>ENTER</b> on the Remote Commander to initialize.</p> <p>8. Turn set off and on to exit.</p>				<p>SERVICE ADJUSTMENT MODE MEMORY</p> 
<b>SCREEN (G2)</b>				<p>PICTURE</p>  <p>.....normal BRIGHTNESS</p> <p>.....normal</p> <p>S BRT G CUT B CUT RV702 SCREEN (G2)</p>
<p>1. Input a dot pattern signal.</p> <p>2. Adjust PICTURE, BRIGHTNESS controls.</p> <p>3. Connect R, G and B of the C board cathode to the oscilloscope.</p> <p>4. Adjust G2 (FBT) volume to the value below.</p> <p>5. Press <b>MUTING</b> and <b>ENTER</b> to write the data in the memory.</p>	Dot pattern  Oscilloscope	cathodes		<p>PICTURE</p>  <p>.....normal BRIGHTNESS</p> <p>.....normal</p> <p>S BRT G CUT B CUT PICTURE</p> <p>.....maximum BRIGHTNESS</p> <p>.....maximum</p> <p>G AMP B AMP</p>
<b>WHITE BALANCE ADJUSTMENTS</b>		Entire White Pattern		<p>PICTURE</p>  <p>.....minimum BRIGHTNESS</p> <p>.....normal</p> <p>S BRT G CUT B CUT PICTURE</p> <p>.....maximum BRIGHTNESS</p> <p>.....maximum</p> <p>G AMP B AMP</p>
<p>1. Input a entire white signal.</p> <p>2. Set to service adjustment mode.</p> <p>3. Set the PICTURE, BRIGHTNESS controls.</p> <p>4. Adjust with S BRT if necessary.</p> <p>5. Select G CUT and B CUT with <b>1</b> and <b>4</b>.</p> <p>6. Adjust with <b>3</b> and <b>6</b> for the best white balance.</p> <p>7. Set the PICTURE and BRIGHTNESS to maximum.</p> <p>8. Select G AMP and B AMP with <b>1</b> and <b>4</b>.</p> <p>9. Adjust with <b>3</b> and <b>6</b> for the best white balance.</p> <p>10. Write into the memory by pressing <b>MUTING</b> then <b>ENTER</b>.</p>				

## SECTION 3

### CIRCUIT ADJUSTMENTS

#### ELECTRICAL ADJUSTMENTS BY REMOTE COMMANDER

Use of Remote Commander (RM-Y116) can be performed circuit adjustments about this model.

##### NOTE : Test Equipment Required.

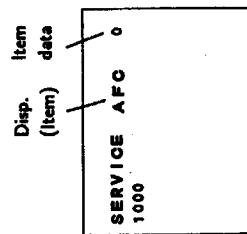
1. Pattern Generator
2. Frequency counter
3. Digital multimeter
4. Audio OSC

#### 1. METHOD OF SETTING THE SERVICE ADJUSTMENT MODE

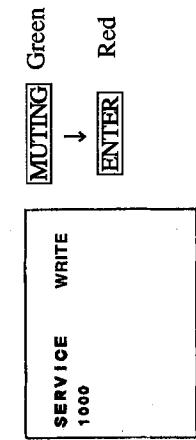
##### SERVICE MODE PROCEDURE

1. Standby mode. (Power off)
2. **DISPLAY** → **5** → **VOL(+)** → **POWER** on the Remote Commander. (Press each button within a second.)

#### SERVICE ADJUSTMENT MODE IN



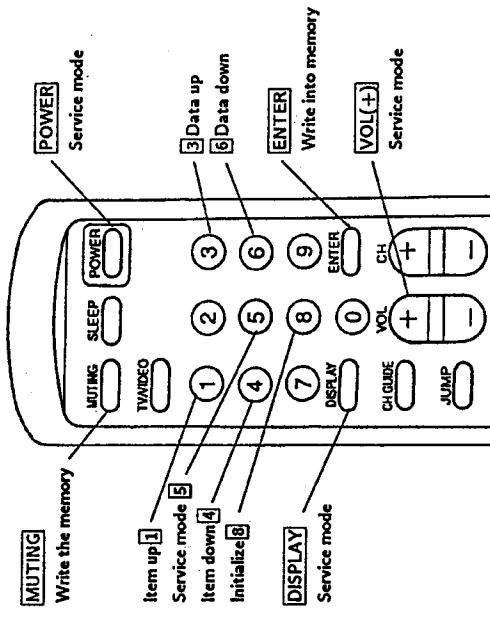
#### SERVICE ADJUSTMENT MODE MEMORY



#### 2. MEMORY WRITE CONFIRMATION METHOD

1. After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
2. Turn the power switch ON and set to Service Mode.
3. Call the adjusted items again, confirm they were adjusted.

#### 3. ADJUST BUTTONS AND INDICATOR



3. The CRT displays the item Being adjusted.
4. Press **[1]** or **[4]** on the Remote Commander to select the item.
5. Press **[3]** or **[6]** on the Remote Commander to change the data.
6. If you want to recover the latest values press **[0]** then **ENTER** to lead the memory.
7. Press **MUTING** then **ENTER** to write into memory.

RM-Y116

#### 4. AN ITEM OF ADJUSTMENTS

#### 5. +B ADJUSTMENTS

No.	Disp.	Item	Data range	Ave. data
00	AFC	AFC Loop Gain 0 : M 1 : S 2 : L 3 : OFF H. Frequency	0 ~ 3	0
01	HFRE	V. Frequency	0 ~ 7F	57
02	VFRE	V. Shift	0 ~ 1F	15
03	VPOS	V. Size	0 ~ 1F	20
04	VSIZ	V.Liniarity	0 ~ 3F	38
05	VLIN	V. Correction	0 ~ 0F	7
06	VSCO	H. PHASE	0 ~ 0F	4
07	HPOS	H. Size	0 ~ 1F	9
08	HSIZ	Pin Amp	0 ~ 1F	15
09	PAMP	Corner Pin	0 ~ 1F	15
**	**	PPHA	0 ~ 7	4
10	CPIN	Pin Phase	0 ~ 0F	7
11	VCOM	V. Compensation	0 ~ 7	2
12	GAMP	Green Amp	1F	15
13	BAMP	Blue Amp	0 ~ 1F	15
14	GCUT	Green Cut Off	0 ~ 0F	7
15	BCUT	Blue Cut Off	0 ~ 0F	7
16	CROM	Chroma Trap	0 ~ 3F	32
17	SPIX	Picture	0 ~ 3F	20
18	SHUE	Sub Hue	0 ~ 3F	25
19	SCOL	Sub Color	0 ~ 3F	28
20	SBRT	Sub Bright	0 ~ 3F	29
21	RGBP	RGB Picture	0 ~ 3F	31
22	SHAP	Sharpness	0 ~ 0F	7
23	VSMO	V Pull In Range	0,1	0
24	REF	0 : normal, 1 : wide	0,1	1
25	ROFF	Refference line	0 ~ 3	1
26	GOFF	Red Out 0 : OFF, 1 : ON	0,1	1
27		Green Out	0,1	1
28	BOFF	0 : OFF, 1 : ON	0,1	1
29	ABLM	Blue Out 0 : OFF, 1 : ON	0,1	0
30	NOTC	ABL Mode 0 : pic+brt, 1 : pic	0,1	0
31	DRGB	Notch filter 0 : chrrap, 1 : OFF	0,1	0
		OSD intensity 0 : 0db, 1 : -3db	0,1	13

\*

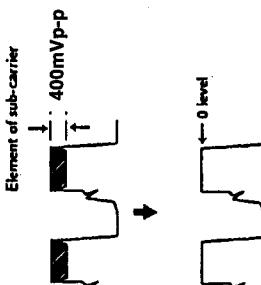
Note

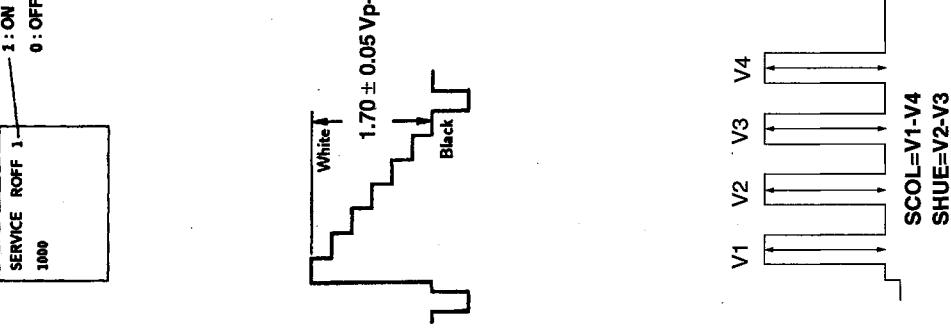
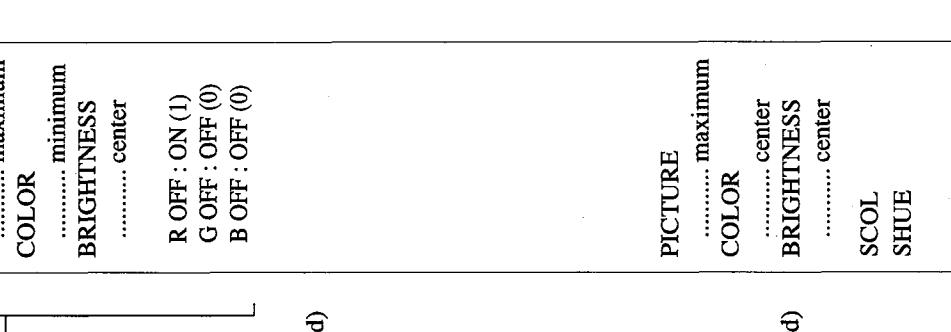
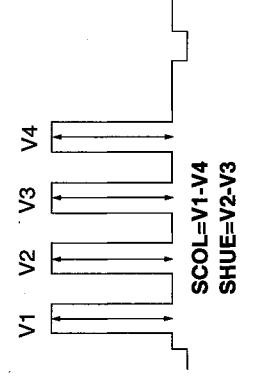
\* Mark : Don't adjust the Service Manu.

#### OP

No.	Disp.	Item	Data range	Ave. data
1	DISP	PWN output	0 ~ 3F	4
2	SPOT	Spot killer	0 ~ 0F	8
3	PBLK	Pic blanking	0 ~ 1F	13

ADJUSTMENT ITEM AND PROCEDURE				
<b>A BOARD</b>				
<b>+B ADJUSTMENT (40V ADJ)</b>				
1.	Set the power source at 130 $\pm 0.5$ VAC.			
2.	Input a color-bar signal.			
3.	Connect a digital voltmeter to the pin ⑨ of CN606.			
4.	Adjust RV601 for 40 $\pm 0.1$ VDC on the digital voltmeter.			
<b>F BOARD (KV9PT60 only)</b>				
<b>+B ADJUSTMENT (40V ADJ)</b>				
1.	Set the power source at 12 $\pm 0.5$ VDC.			
2.	Input a color-bar signal.			
3.	Connect a digital voltmeter to the pin ⑨ of CN606.			
4.	Adjust RV652 for 40 $\pm 0.1$ VDC on the digital voltmeter.			
<b>+B ADJUSTMENT (9.8V ADJ)</b>				
1.	Set the power source at 12 $\pm 0.5$ VDC.			
2.	Input a color-bar signal.			
3.	Connect a digital voltmeter to the pin ⑨ of CN 606.			
4.	Adjust RV 651 for 9.8 $\pm 0.1$ VDC on the digital voltmeter.			

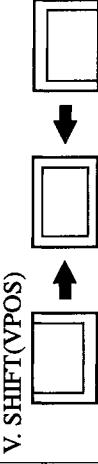
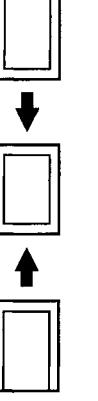
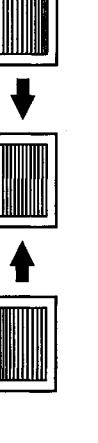
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
<b>H. FREQUENCY ADJUSTMENT (HFRE)</b>	Monoscope Pattern Frequency counter (Base of Q550)	JL24 (Base of Q550) AFC HFRE	15734±60Hz	
<b>V. FREQUENCY ADJUSTMENT (VFRE)</b>	Frequency counter CN501 ④ pin (VDY +)	VFRE 56±0.5 Hz		<b>PICTURE</b> ..... maximum ..... center ..... minimum CTR P
<b>CROMA TRAP ADJUSTMENT (CTR P)</b>	Red pattern Oscilloscope CN301 ① pin R-OUT (A board)			

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
<b>SUB PICTURE ADJUSTMENT (SPIX)</b>	Color-Bar Pattern Oscilloscope	PICTURE COLOR BRIGHTNESS	CN301 ① pin R-OUT (A board)	
				
<b>SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)</b>	Color-Bar Pattern Oscilloscope	PICTURE COLOR BRIGHTNESS SCOL SHUE	CN301 ③ pin B-OUT (A board)	

1. Input the color bar signal, and adjust PICTURE, BRIGHTNESS and COLOR.
2. Set to Service adjustment Mode.
3. Connect an oscilloscope between the A board connector CN301 ① pin and ground.
4. Call to item of G OFF and B OFF, set to 0 level.
5. Select SPIX with ① and ④.
6. Adjust with ③ and ⑥, so that the wave form level is  $1.70 \pm 0.05 \text{ Vp-p}$ .
7. Call to item of G OFF and B OFF, set to 1 level.
8. Write the memory by pressing **MUTING** then **ENTER**.

#### SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

1. Input a color bar signal, and adjust PICTURE, BRIGHTNESS and COLOR.
2. Connect an oscilloscope between the A board connector CN301 ③ pin and ground.
3. Set to service adjustment mode.
4. Select SCOL with ① and ④.
5. Adjust with ③ and ⑥ for the  $V1=V4 \pm 0.1\text{V}$ .
6. Select SHUE with ① and ④.
7. Adjust with ③ and ⑥ for the  $V2=V3 \pm 0.1\text{V}$ .
8. Write into the memory by pressing **MUTING** then **ENTER**.

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
<b>V. CENTER ADJUSTMENT (VPOS)</b>	Cross-hatch pattern	VPOS	V. SHIFT(VPOS)	
<b>H. CENTER ADJUSTMENT (HPOS)</b>	Cross-hatch pattern	HPOS	H. CENTER(HPOS)	
<b>V. LINEARITY(V LIN), V CORRECTION (VSCO) ADJUSTMENT</b>	Cross-hatch pattern	VLIN	V. LINEARITY(VLIN)	
		VSCO	V. CORRECTION(VSCO)	

NOTE : Perform this adjustment after H. FREQUENCY ADJUSTMENT (HFRE).

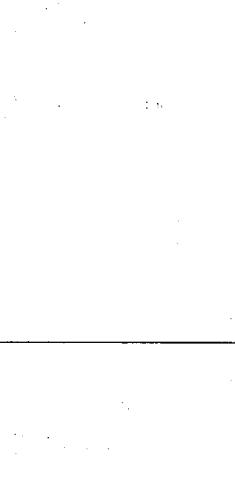
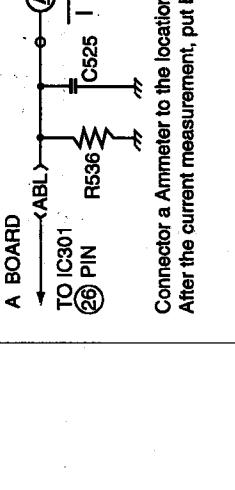
1. Input a cross hatch signal.
2. Set to Service adjustment Mode.
3. Select VPOS with **1** and **4**.
4. Adjust with **3** and **6** for the best vertical center.
5. Write into the memory by pressing **MUTING** then **ENTER**.

**V. LINEARITY(V LIN), V CORRECTION (VSCO) ADJUSTMENT**

1. Input a cross hatch signal.
2. Set to Service adjustment Mode.
3. Select VLIN and VSCO with **1** and **4**.
4. Adjust with **3** and **6** for the best picture.
5. Write into the memory by pressing **MUTING** then **ENTER**.

## SECTION 5 SAFETY RELATED ADJUSTMENTS

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
<b>[ A BOARD ]</b>  <b>☒ RV601,R069 B+ MAXIMUM VOLTAG CONFIRMATION AND ADJUSTMENT.</b>			☒ marked parts IC601, R627, R629, R069, L601	☒ RV601,R069
		Monoscope signal		<p>PICTURE .....maximum BRIGHTNESS .....center</p> <p>CN 606 pin ⑨</p> <p>Connector CN 606 pin ⑨ less than 43.0 VDC.</p>
<b>[ F BOARD ] (KV-9PT60)</b>  <b>☒ RV652,R670 B+ MAXIMUM VOLTAG CONFIRMATION AND ADJUSTMENT.</b>			☒ marked parts F653, IC652, L654, R667, R668, R670	☒ RV652,R670
		Monoscope signal		<p>PICTURE .....maximum BRIGHTNESS .....center</p> <p>CN 606 pin ⑨</p> <p>Connector CN 606 pin ⑨ less than 43.0 VDC.</p>

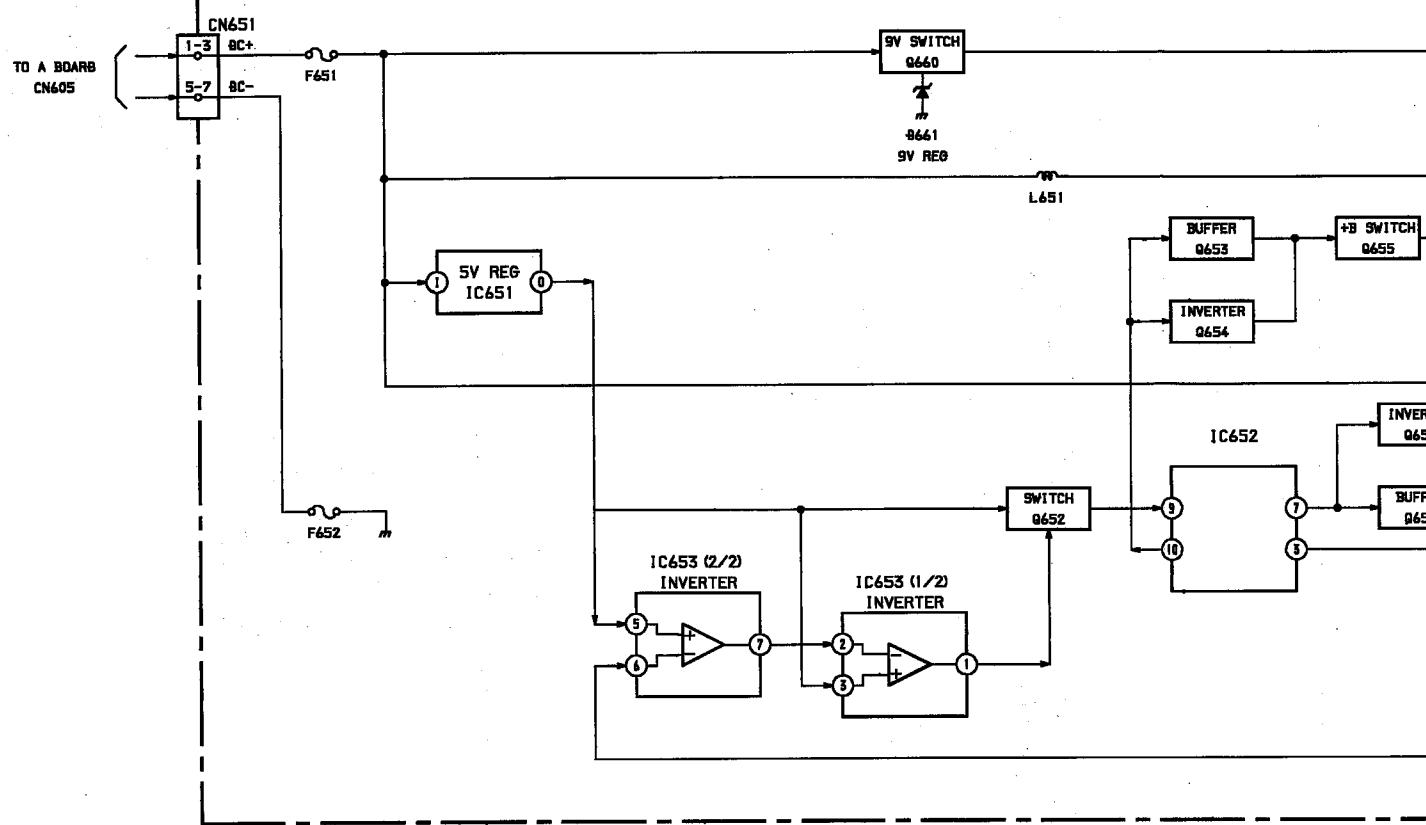
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
<p><b>Preparation for confirmation.</b></p> <ol style="list-style-type: none"> <li>Set the power source to <math>120 \pm 1.0</math> VAC.</li> <li>Receive Monoscope signal.</li> <li>Set the PICTURE and BRIGHTNESS at the reset position.</li> <li>Confirm if the voltage between JL46 (H.PROT) and ground is more than DC 85V.</li> <li>When inputting <math>12 \pm 1.0</math> VDC at the DC power supply input terminal, do the same adjust process 3. and 4. above. (KV-9PT60 ONLY)</li> </ol>	Monoscope signal		PICTURE ..... maximum BRIGHTNESS ..... center	
<p><b>HOLD DOWN OPERATION CONFIRMATION .</b></p> <ol style="list-style-type: none"> <li>Set the power source to <math>120 \pm 1.0</math> VAC.</li> <li>Receive all white signal.</li> <li>Using an external DC power supply, apply voltage to JL46 (H.PROT) and ground.</li> <li>Gradually increase the voltage and confirm if the hold-down circuit works (Raster disappears) at less than 113.0VDC.</li> <li>Confirm if ABL current is within <math>660 \pm 50\mu A</math>.</li> </ol>		All white signal	<p>marked parts</p> <p>RV601,R069</p> <p>C511, C513, C528, C531, D505, D506, D507, D510, L505, IC502, IC602, Q554, Q555, R511, R519, R520, R523, R525, R527, R557, R558, R559, R560, R639, R640, T504, DY.</p>	
<p><b>(KV-9PT60)</b></p> <p><b>HOLD DOWN OPERATION CONFIRMATION .</b></p> <ol style="list-style-type: none"> <li>Set the power source to <math>12 \pm 1.0</math> VDC.</li> <li>Receive a dot signal.</li> <li>Using an external DC power supply, apply voltage to JL46 (H.PROT) and ground.</li> <li>Gradually increase the voltage and confirm if the hold-down circuit works (Raster disappears) at less than 113.0VDC.</li> <li>Confirm if ABL current is within <math>70 \pm 50\mu A</math>.</li> </ol>		Dot signal		<p>Connector a Ammeter to the location of R504 space. After the current measurement, put back the 2 resistors.</p> <p>ABL current KV-9PT50/9PT60 : <math>660 \pm 50\mu A</math> KV-9PT60 : <math>70 \pm 50\mu A</math></p>

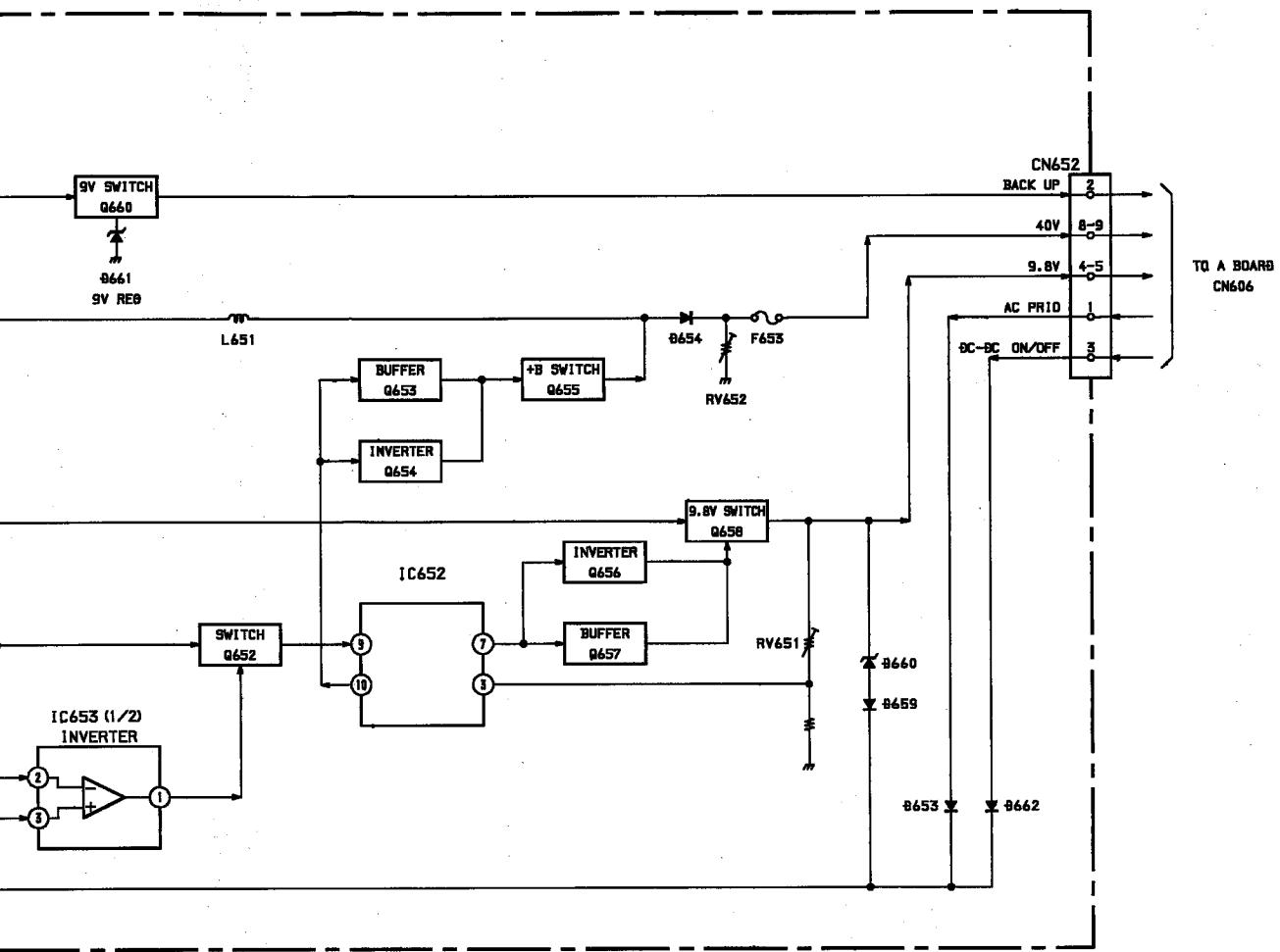
## **SECTION 6 DIAGRAMS**

## 6-1. BLOCK DIAGRAMS (1)

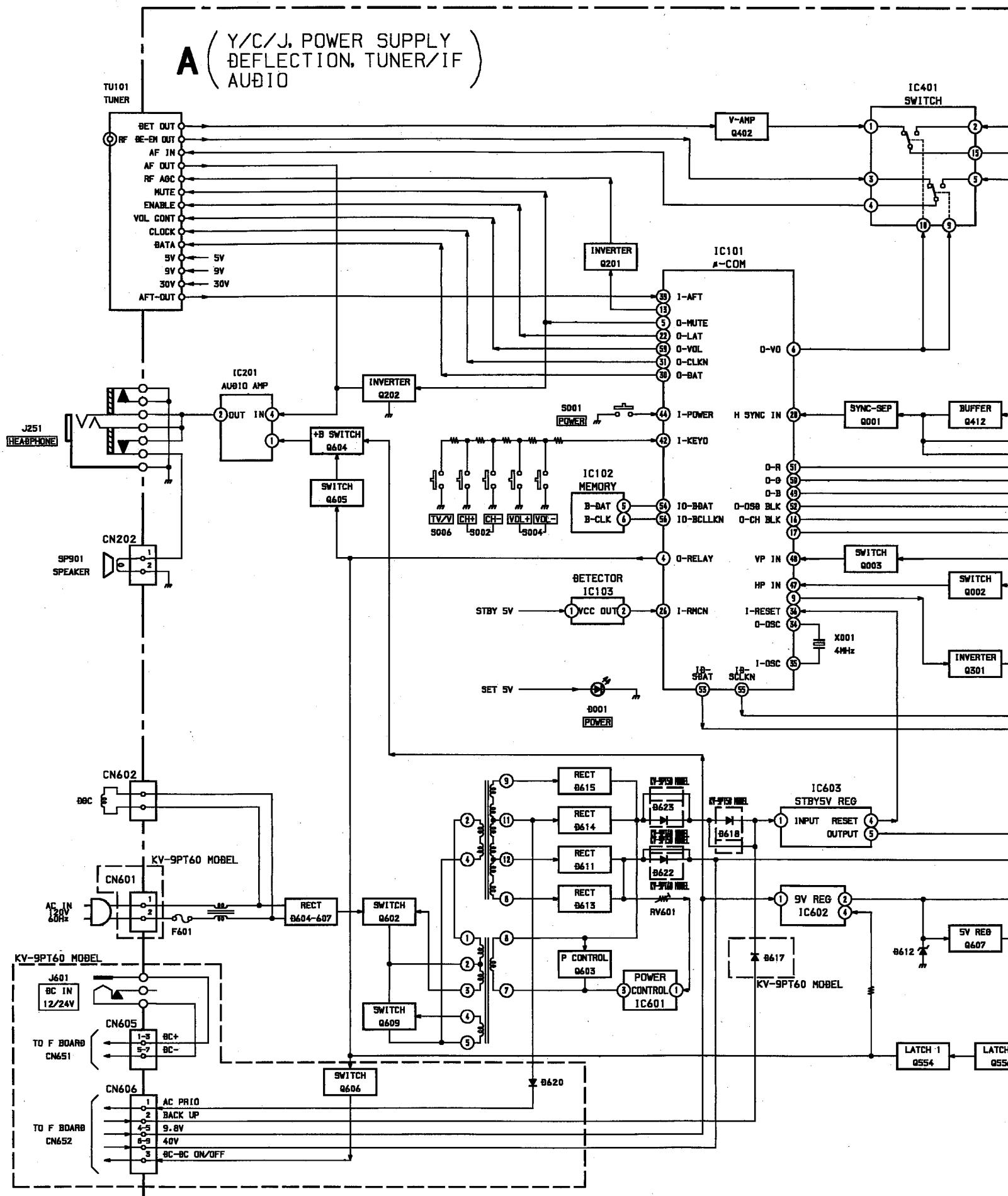
KV-9PT60 MODEL

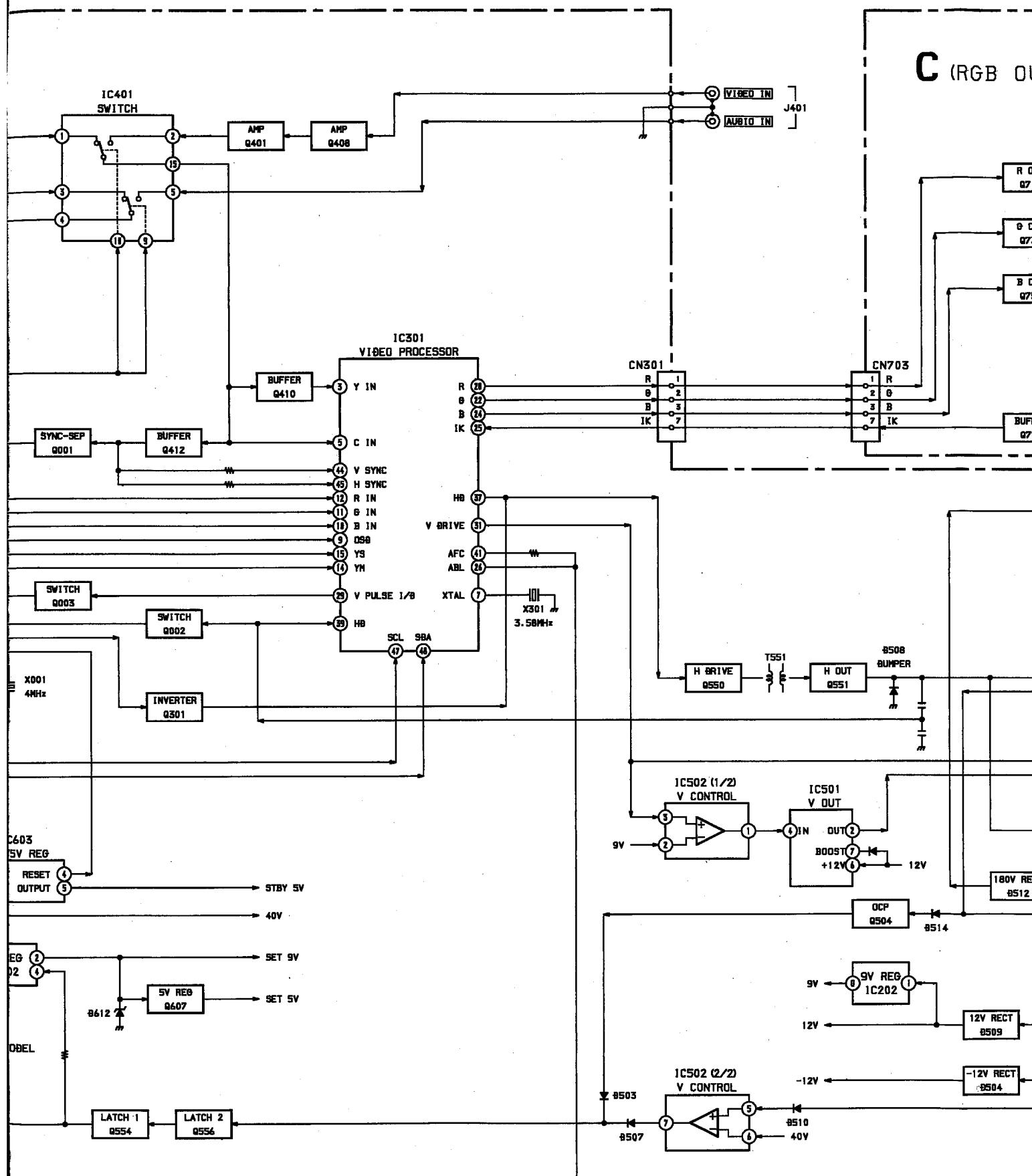
## F (DC-DC CONVERTER)

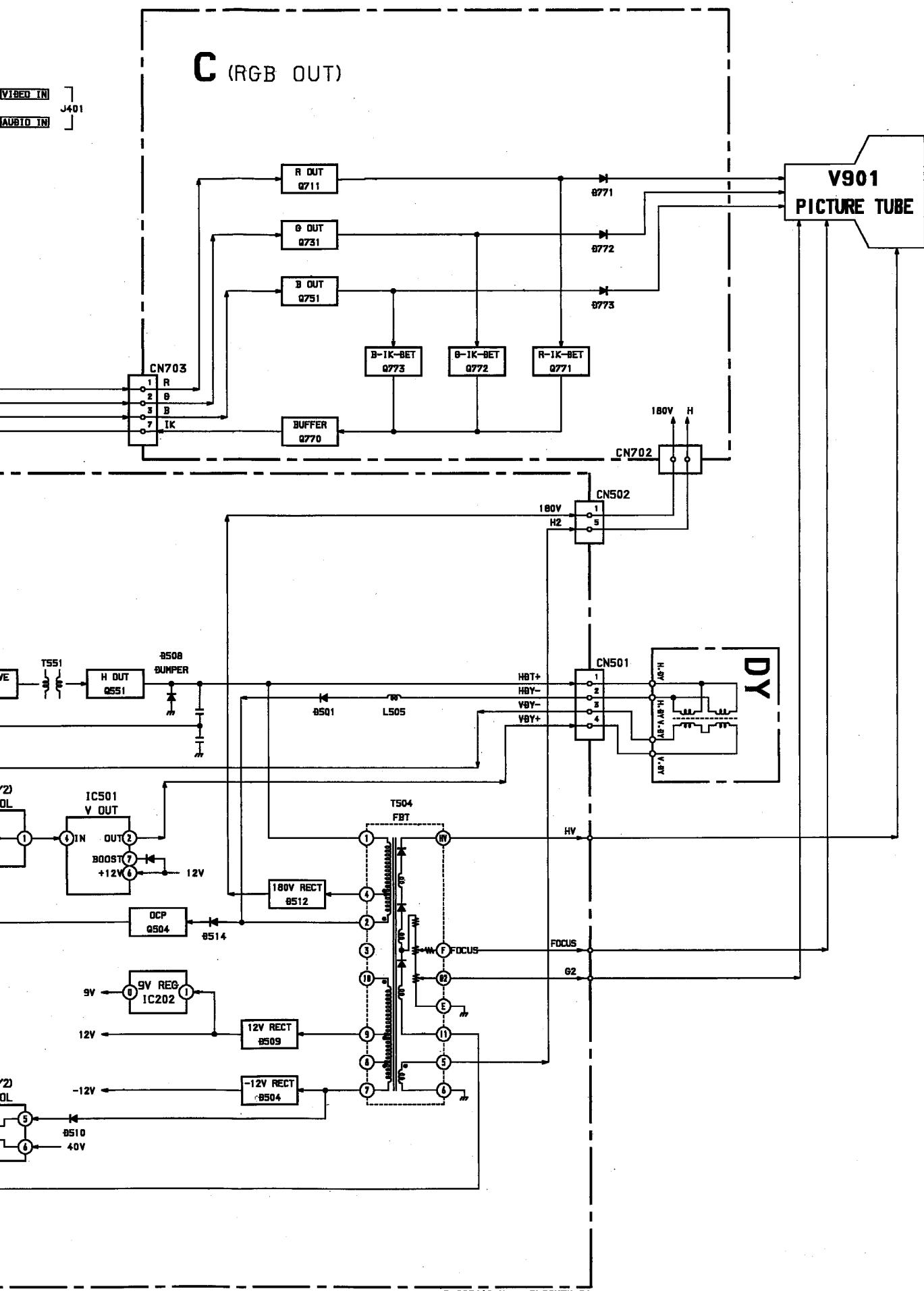




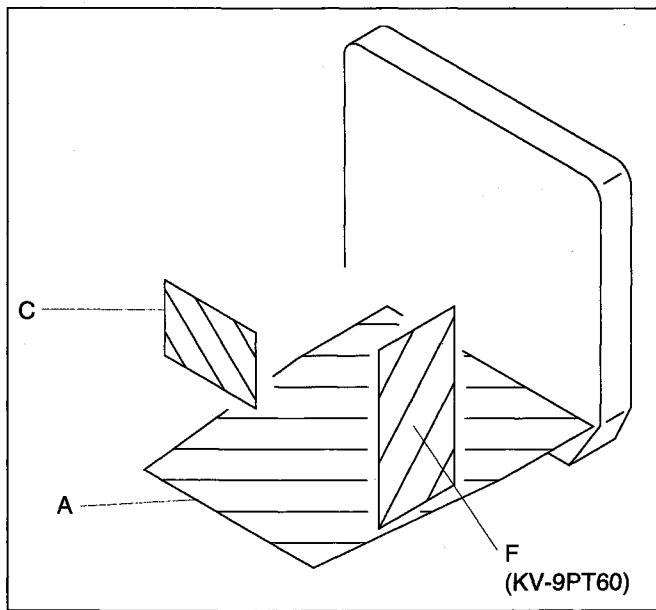
## BLOCK DIAGRAMS (2)







## 6-2. CIRCUIT BOARDS LOCATION



## 6-3. PRINTED WRING BOARDS AND SCHEMATIC DIAGRAMS

### Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$  :  $\mu\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms.  
 $\text{K}\Omega=1000\Omega$ ,  $\text{M}\Omega=1000\text{k}\Omega$
- Indication of resistance, which dose not have one for rating electrical power, is as follows.

Pitch : 5mm

Rating electrical power :  $1/4\text{ W}$

- $1/4\text{ W}$  in resistance,  $1/10\text{ W}$  and  $1/8\text{ W}$  in chip resistance.
- : nonflammable resistor.
- : fusible resistor.
- $\Delta$  : internal component.
- : panel designation and adjustment for repair.
- # : not mounted.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- $\perp$  : earth-ground.
- $\not\perp$  : earth-chassis.
- The components identified by in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by and repeat the adjustment until the specified value is achieved. (Refer to R069, R670, RV601, RV652 adjustment on Page 29-30.)
- When replacing the part in below table, be sure to perform the related adjustment.
- Readings are taken with a color-bar signal input.
- Readings are taken with a  $10\text{M}\Omega$  digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- S : Measurement impossibility.

Part replaced ()	Adjustment ()
C511, C513, C528, C531, D505, D506, D507, D510, IC502, IC602, L505, Q554, Q555, R511, R519, R520, R523, R525, R527, R557, R558, R559, R560, R639, R640, T504, DY ..... A BOARD	HOLD-DOWN
IC601, L601, R069, R627, RV601 ..... A BOARD	RV601, R069 (B+ MAX)
F653, IC652, L654, R667, R670, RV652 ..... F BOARD	RV652, R670 (B+ MAX)

— : B-line.

— : B-line.

(Actual measured value may be different).

— : signal path. (RF)

• Circled numbers are waveform references.

### Reference information

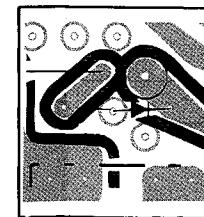
RESISTOR	: RN METAL FILM
	: RC SOLID
	: FPRD NONFLAMMABLE CARBON
	: FUSE NONFLAMMABLE FUSIBLE
	: RW NONFLAMMABLE WIREWOUND
	: RS NONFLAMMABLE METAL OXIDE
	: RB NONFLAMMABLE CEMENT
	:  ADJUSTMENT RESISTOR
COIL	: LF-8L MICRO INDUCTOR
CAPACITOR	: TA TANTALUM
	: PS STYROL
	: PP POLYPROPYLENE
	: PT MYLAR
	: MPS METALIZED POLYESTER
	: MPP METALIZED POLYPROPYLENE
	: ALB BIPOLAR
	: ALT HIGH TEMPERATURE
	: ALR HIGH RIPPLE

Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

Note: The symbol display is on the component side.

The components identified by shading and mark are critical for safety. Replace only with part number specified.

The symbol indicate fast operating fuse. Replace only with fuse of same rating as maked.



Note: Les composants identifiés par un trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

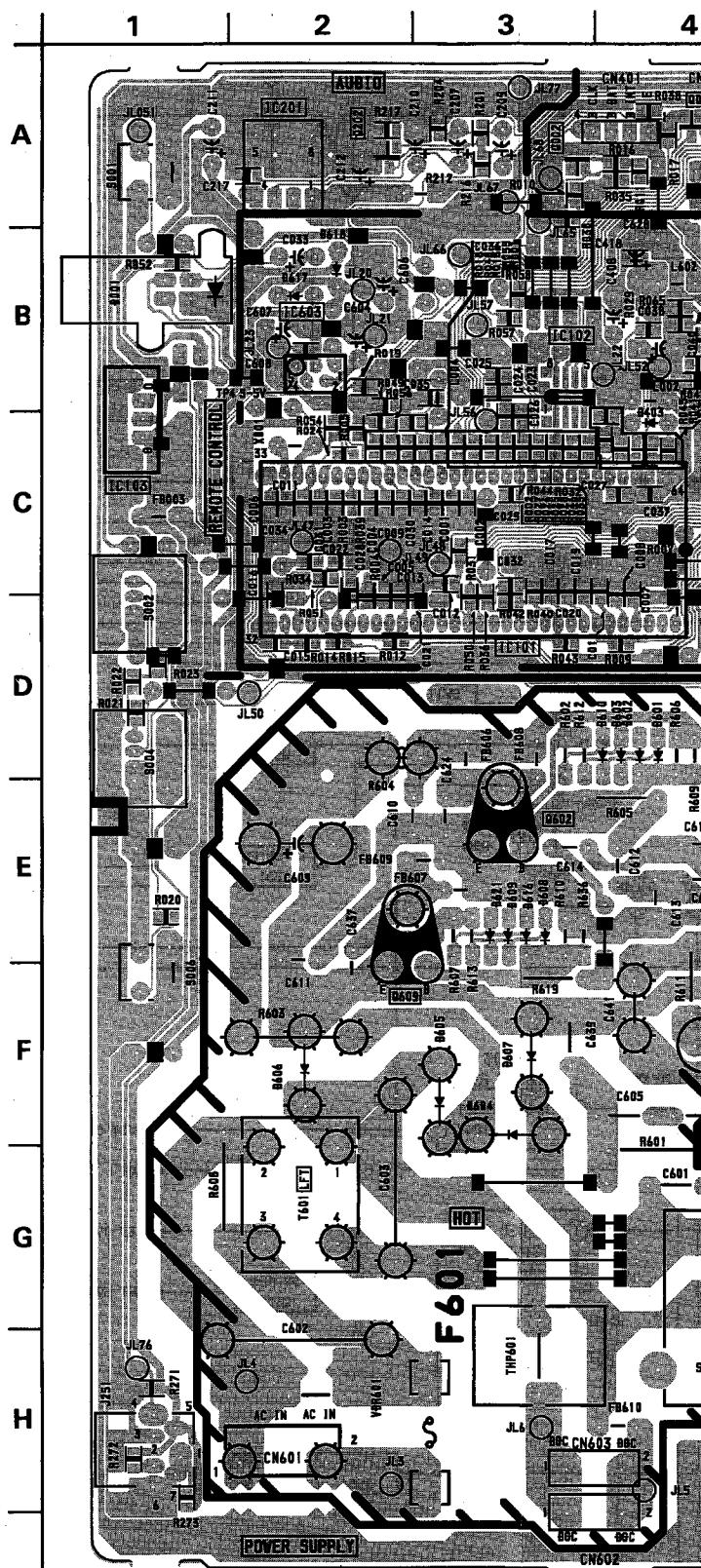
Le symbole indique une fusible a action rapide. Doit etre remplacée par une fusible de même valeur, comme maque.

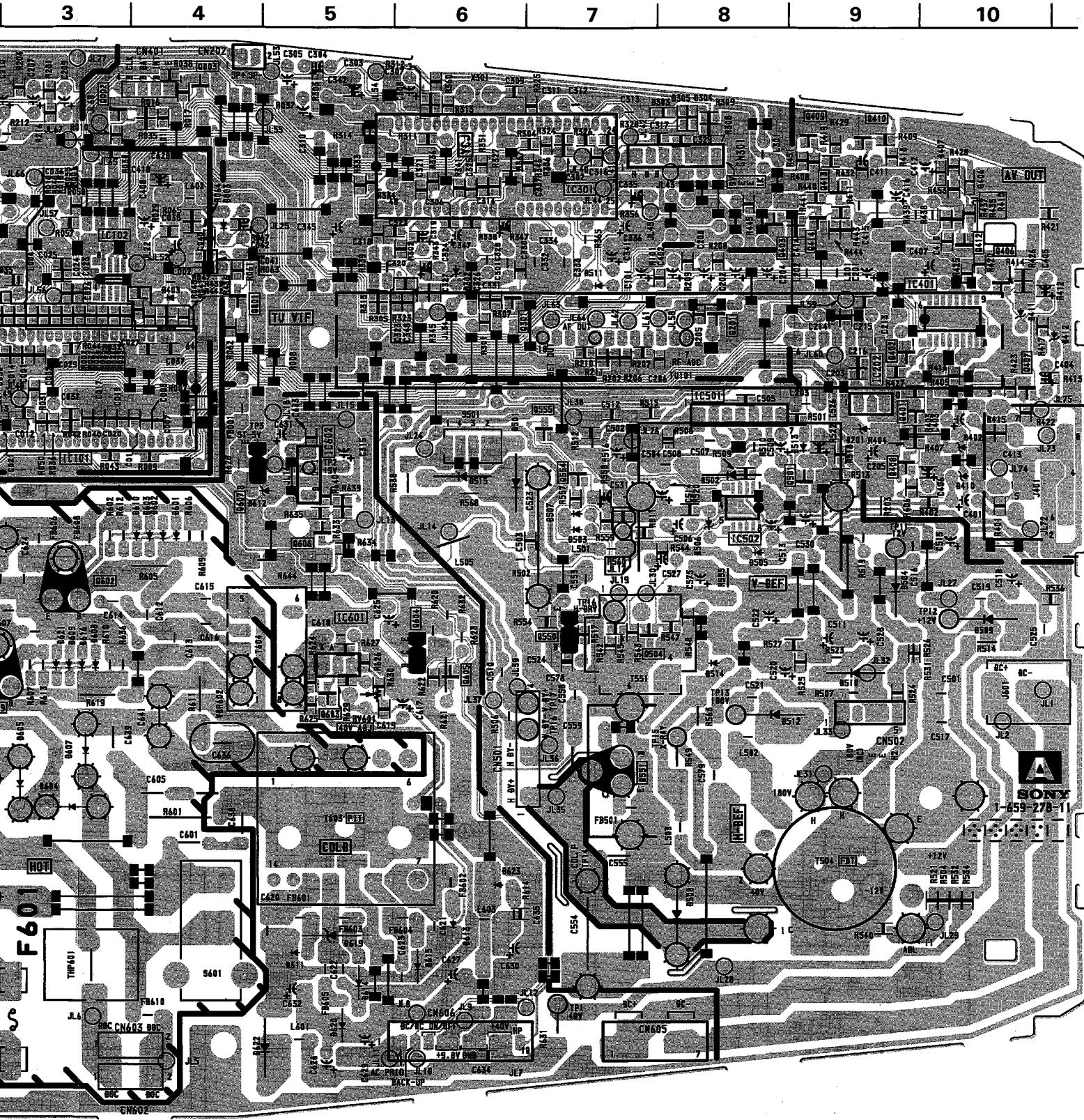
**A**Y/C/J, POWER SUPPLY,  
DEFLECTION, TUNER/IF, AUDIO**- A BOARD -****A BOARD LOCATION**

IC	D402	D-10
IC101	C-3	D403 C-4
IC102	B-3	D410 D-10
IC103	C-1	D501 D-6
IC201	A-2	D502 D-8
IC202	C-9	D503 D-7
IC301	B-6	D504 E-9
IC401	C-10	D505 D-8
IC501	C-8	D506 D-8
IC502	D-8	D507 D-7
IC601	E-5	D508 G-7
IC602	D-5	D509 E-10
IC603	B-2	D510 E-9
TRANSISTOR		D512 F-8
Q001	C-4	D514 E-8
Q002	A-3	D601 D-4
Q003	A-4	D602 D-4
Q201	C-8	D603 D-3
Q202	A-2	D604 F-3
Q301	C-6	D605 F-2
Q401	C-9	D606 F-2
Q402	C-9	D607 F-3
Q408	D-9	D608 E-3
Q410	A-9	D609 E-3
Q412	B-10	D610 D-3
Q504	E-7	D611 H-5
Q550	E-7	D612 D-4
Q551	F-7	D613 G-6
Q554	D-7	D614 H-5
Q555	D-6	D615 H-5
Q602	E-3	D616 E-3
Q603	F-5	D617 B-2
Q604	E-5	D618 B-2
Q605	E-6	D619 G-5
Q606	D-5	D620 H-5
Q607	D-4	D621 E-3
Q609	E-2	D622 H-4
DIODE		D623 G-6
D001	B-1	VARIABLE
D003	B-4	RESISTOR
D201	D-9	RV601 F-5
D302	B-6	

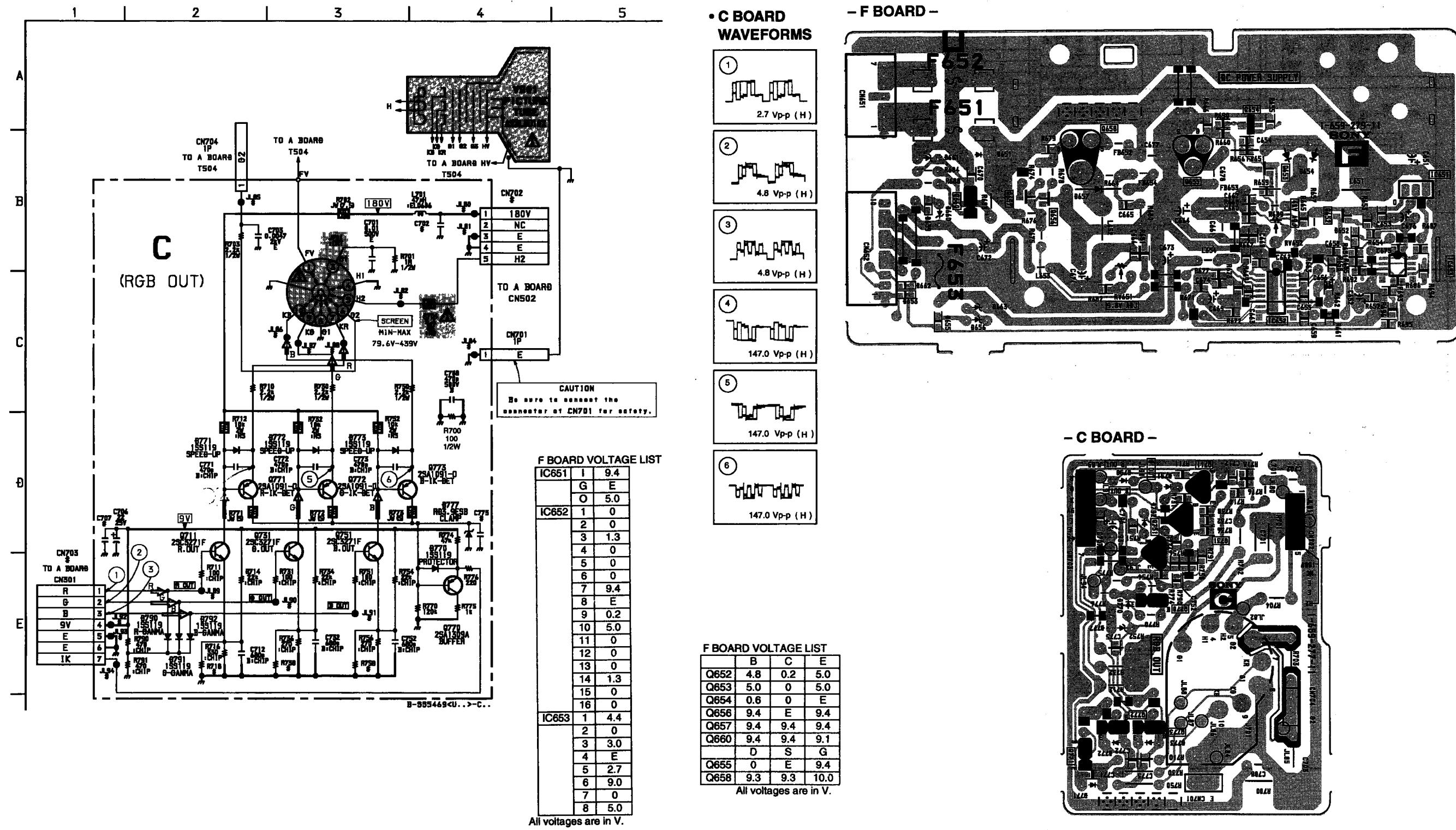
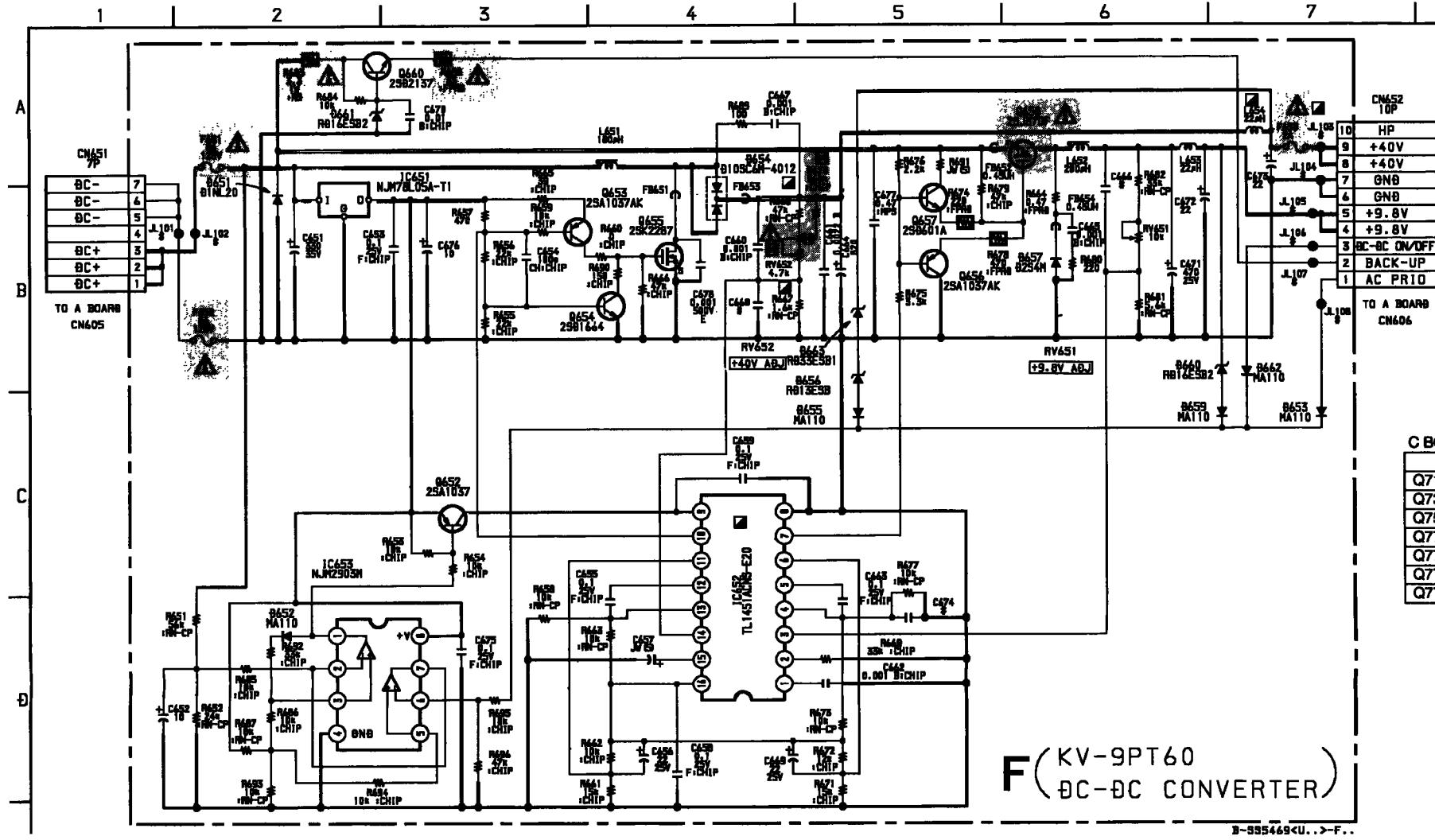
**NOTE:**

The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.









Schematic diagrams

← A board

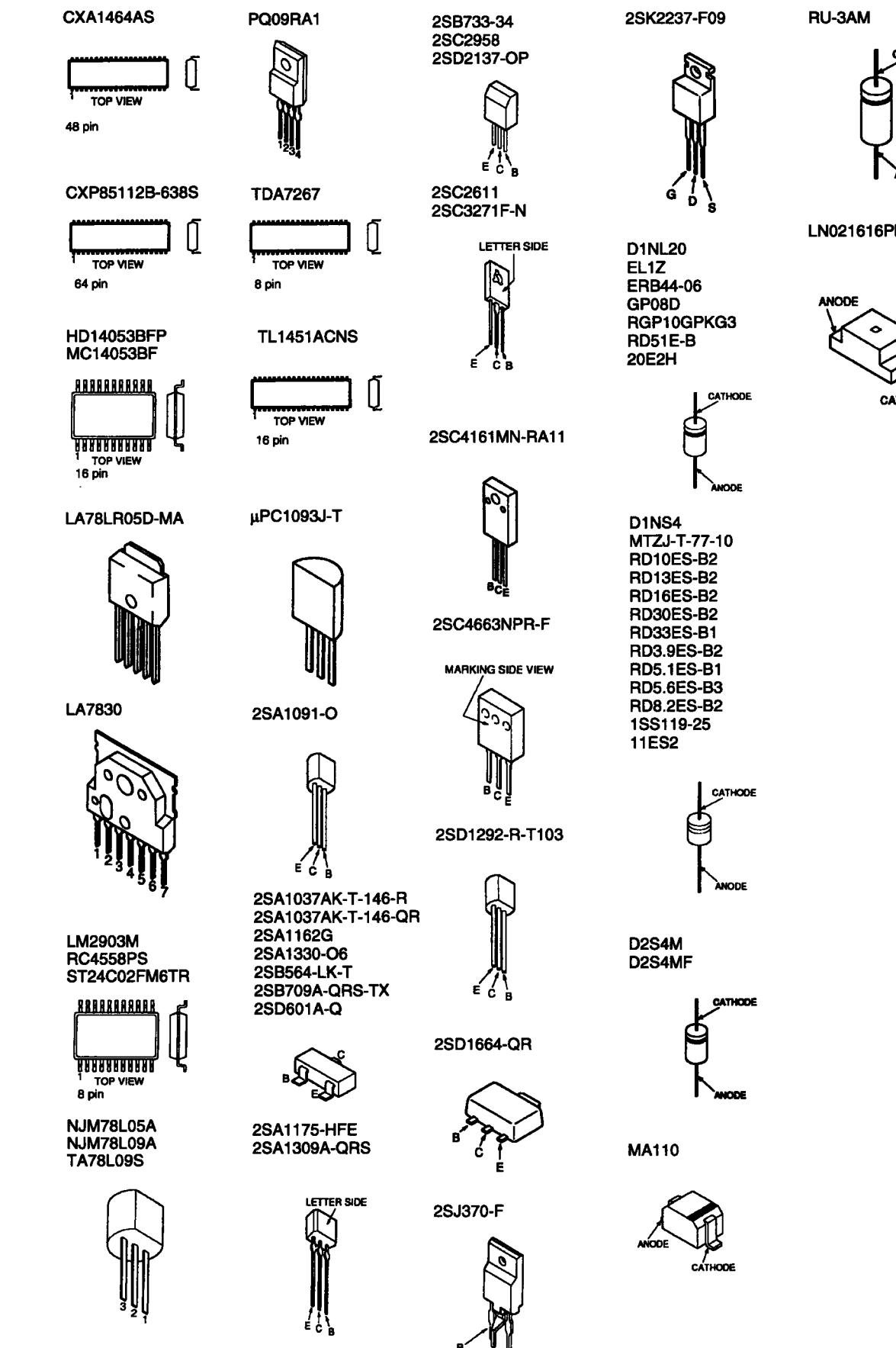
— 43 —

Schematic diagrams

C F board →

— 44 —

#### 6-4. SEMICONDUCTORS



**NOTE :**

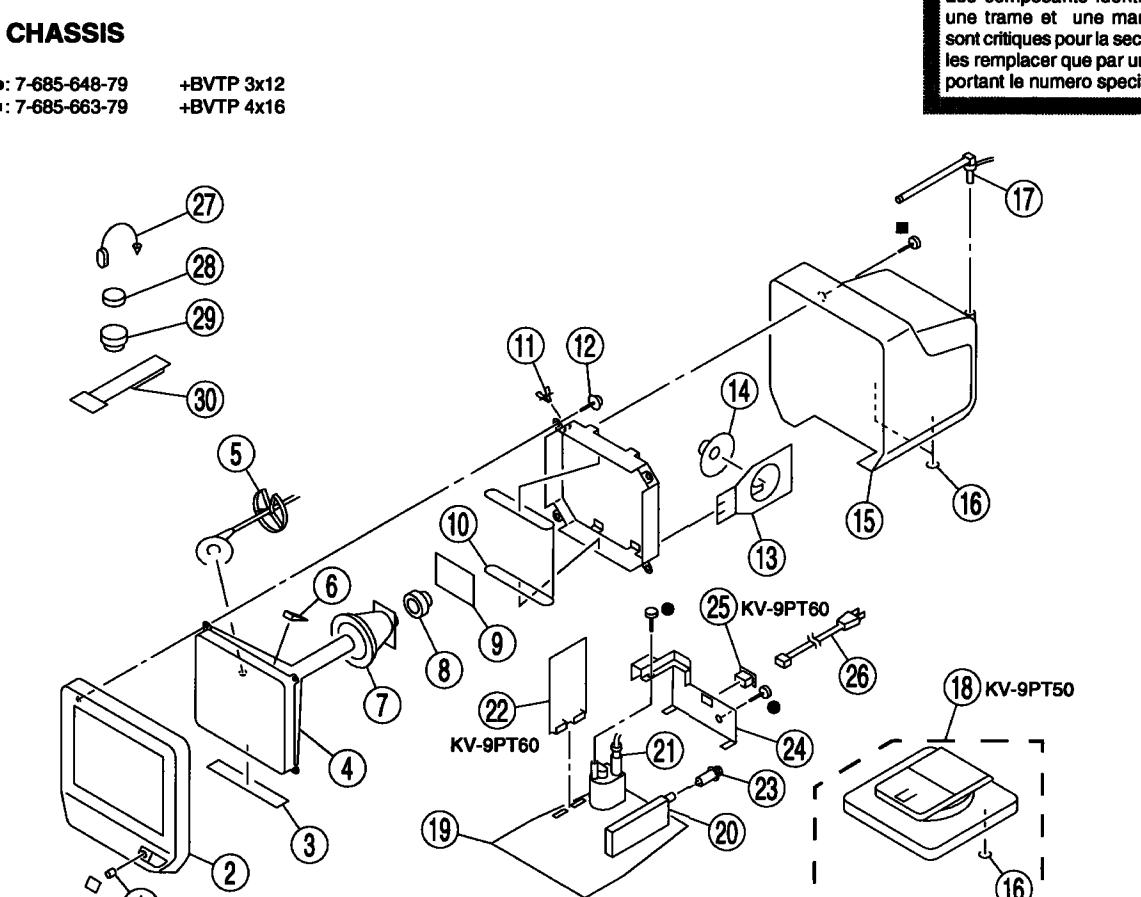
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

• Items marked \* are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifique.

#### SECTION 7 EXPLODED VIEWS



REF. NO.	PART NO.	DESCRIPTION	REMARK
1	4-374-897-01	GUIDE LIGHT	16
2	X-403-216-1	BRACKET ASSY (KV-9PT60)	
3	X-403-221-1	BRACKET ASSY (KV-9PT60)	
4	4-052-215-01	SHEET, BLOTTING	
4	8-735-822-05	CRT 1 OSL (SD-270 (A23LDU10X))	
5	4-034-855-01	HOLDER, HIGH-VOLTAGE CABLE	
6	9-704-495-02	SPACER, DV	
7	8-451-150-11	DY11 OSLA	
8	1-452-760-11	NECK ASSEMBLY (NA221)	
9	1-133-511-1	C BOARD COMPLETE	
10	1-411-754-11	COIL, DEMAGNETIC	
11	4-395-824-02	HOLDER, DEGAUSSING COIL	
12	4-356-808-01	SCREW(S), TAPPING	
13	4-052-076-01	HOLDER, SPEAKER	
14	1-105-225-11	SPEAKER (ICM)	
15	4-052-070-00	COVER, REAR (KV-9PT60)	
15	4-052-045-21	COVER, REAR (KV-9PT60)	
16	4-052-214-01	FOOT	
17	1-501-813-11	ANTENNA, TELESCOPIC (KV-9PT60)	
17	1-501-813-21	ANTENNA, TELESCOPIC (KV-9PT60)	
25	1-540-032-11	INLET 2P (KV-9PT60)	
26	1-574-065-21	CORD, POWER (KV-9PT60)	
27	1-778-846-11	CORD, POWER (KV-9PT60)	
28	1-452-032-00	LEAD WIRE	
29	1-452-064-00	MAGNET, DISK, 10MM	
30	X-4308-815-9	PERMALLOY ASSY, CONVERGENCE	

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## **SECTION 8**

# **ELECTRICAL PARTS LIST**

F

**NOTE:**

Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark  are critical for safety.  
Replace only with part number specified.

- The components identified by  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

## RESISTORS

- All resistors are in ohms
- F : nonflammable

REF. NO.	PART NO.	DESCRIPTION	REMAR			
* A-1245-582-A F BOARD, COMPLETE (KV-9PT60) *****						
4-382-854-11 SCREW (M3X10), P, SW (+)						
<CAPACITOR>						
C651	1-111-087-11	ELECT	330MF	20% 35V		
C652	1-126-964-11	ELECT	10MF	20% 50V		
C653	1-163-038-91	CERAMIC CHIP	0.1MF	25V		
C654	1-163-251-11	CERAMIC CHIP	100PF	5% 50V		
C655	1-163-038-91	CERAMIC CHIP	0.1MF	25V		
C656	1-128-551-11	ELECT	22MF	20% 25V		
C658	1-163-038-91	CERAMIC CHIP	0.1MF	25V		
C659	1-163-038-91	CERAMIC CHIP	0.1MF	25V		
C660	1-163-009-11	CERAMIC CHIP	0.001MF	10% 50V		
C661	1-102-121-00	CERAMIC	0.0022MF	10% 50V		
C662	1-163-009-11	CERAMIC CHIP	0.001MF	10% 50V		
C663	1-163-038-91	CERAMIC CHIP	0.1MF	25V		
C664	1-111-125-51	ELECT	820MF	20% 50V		
C665	1-163-009-11	CERAMIC CHIP	0.001MF	10% 50V		
C667	1-163-009-11	CERAMIC CHIP	0.001MF	10% 50V		
C669	1-128-551-11	ELECT	22MF	20% 25V		
C670	1-164-232-11	CERAMIC CHIP	0.01MF	10% 50V		
C671	1-111-063-11	ELECT	470MF	20% 25V		
C672	1-126-965-11	ELECT	22MF	20% 50V		
C673	1-126-965-11	ELECT	22MF	20% 50V		
C675	1-163-038-91	CERAMIC CHIP	0.1MF	25V		
C676	1-107-929-11	ELECT	10MF	20% 50V		
C677	1-136-173-00	FILM	0.47MF	5% 50V		
C678	1-102-038-00	CERAMIC	0.001MF	500V		
<CONNECTOR>						
CN651	* 1-774-812-11	CONNECTOR, BOARD TO BOARD	7P			
CN652	1-766-924-11	CONNECTOR, BOARD TO BOARD	10P			

## DIODE:

D651	8-719-510-26	DIODE D1NL20
D652	8-719-404-46	DIODE MA110
D653	8-719-404-46	DIODE MA110
D654	8-719-057-96	DIODE D10SC6M-4012
D655	8-719-404-46	DIODE MA110
D656	8-719-110-36	DIODE RD13ESB2
D657	8-719-022-97	DIODE D2S4MF
D659	8-719-404-46	DIODE MA110
D660	8-719-110-46	DIODE RD16ESB3
D661	8-719-110-46	DIODE RD16ESB3
D662	8-719-404-46	DIODE MA110
D663	8-719-110-76	DIODE RD33ESB1

When indicating parts by reference number, please include the board name.

- CAPACITORS

PF :  $\mu\mu F$

- There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

REF. NO.	PART NO.	DESCRIPTION	REMARK
<b>&lt;FUSE&gt;</b>			
F651	1-533-311-11	FUSE, GLASS CYLINDRICAL (DIA. 5)8A/125V	
	1-533-223-11	HOLDER, FUSE; F651	
F652	1-533-311-11	FUSE, GLASS CYLINDRICAL (DIA. 5)8A/125V	
	1-533-223-11	HOLDER, FUSE; F652	
F653	1-532-779-21	FUSE, MICRO (SECONDARY) 2A/125V	
<b>&lt;FERRITE BEAD&gt;</b>			
FB651	1-414-411-21	INDUCTOR, BEAD	
FB652	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB653	1-414-411-21	INDUCTOR, BEAD	
FB654	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
<b>&lt;IC&gt;</b>			
IC651	8-759-708-05	IC NJM78L05A	
IC652	8-759-937-36	IC TL1451ACNS	
IC653	8-759-981-65	IC LM2903M	
<b>&lt;COIL&gt;</b>			
L651	1-411-763-11	COIL, CHOKE 200UH	
L652	1-412-049-11	COIL, CHOKE 200UH	
L653	1-412-529-11	INDUCTOR 22UH	
L654	1-412-529-11	INDUCTOR 22UH	
<b>&lt;TRANSISTOR&gt;</b>			
Q652	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q653	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q654	8-729-920-85	TRANSISTOR 2SD1664-QR	
Q655	8-729-034-86	TRANSISTOR 2SK2287-F09	
Q656	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q657	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q658	8-729-035-38	TRANSISTOR 2SJ370-F	
Q660	8-729-423-XX	TRANSISTOR 2SD2137-OP	

### <RESISTOR>

R651	1-208-824-11	METAL CHIP	56K	0.50%	1/10W
R652	1-216-684-91	METAL CHIP	24K	0.50%	1/10W
R653	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R654	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R655	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R656	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R657	1-249-413-11	CARBON	470	5%	1/4W
R658	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R659	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R660	1-216-295-91	CONDUCTOR, CHIP			
R661	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R662	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R663	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R664	1-249-377-11	CARBON	0.47	5%	1/4W
R665	1-216-015-00	METAL GLAZE	39	5%	1/10W

**F**

**A**

• The components identified by **F** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK		
R666	1-216-089-91	METAL GLAZE 47K	5%	1/10W	C032	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
R667	1-216-656-11	METAL CHIP 1.6K	0.50%	1/10W	C033	1-126-933-11	ELECT 100MF	20%	10V
R668	1-216-089-91	METAL GLAZE 47K	5%	1/10W	C034	1-163-037-11	CERAMIC CHIP 0.022MF	10%	50V
R669	1-216-085-00	METAL GLAZE 33K	5%	1/10W	C035	1-163-113-00	CERAMIC CHIP 68PF	5%	50V
<b>R670</b>	<b>1-216-115-00</b>	<b>METAL GLAZE 560K</b>	<b>5%</b>	<b>1/10W</b>	<b>C036</b>	<b>1-163-113-00</b>	<b>CERAMIC CHIP 68PF</b>	<b>5%</b>	<b>50V</b>
R671	1-216-077-00	METAL GLAZE 15K	5%	1/10W	C037	1-164-005-11	CERAMIC CHIP 0.47MF		25V
R672	1-216-075-00	METAL GLAZE 12K	5%	1/10W	C038	1-126-935-11	ELECT 470MF	20%	16V
R673	1-208-806-11	METAL CHIP 10K	0.50%	1/10W	C040	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
R674	1-249-409-11	CARBON 220	5%	1/4W	C041	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V
R675	1-249-423-11	CARBON 3.3K	5%	1/4W	C042	1-124-903-11	ELECT 1MF	20%	50V
R676	1-249-421-11	CARBON 2.2K	5%	1/4W	C043	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
R677	1-208-806-11	METAL CHIP 10K	0.50%	1/10W	C047	1-102-110-00	CERAMIC 220PF	10%	50V
R678	1-249-413-11	CARBON 470	5%	1/4W	C048	1-102-110-00	CERAMIC 220PF	10%	50V
R679	1-216-089-91	METAL GLAZE 47K	5%	1/10W	C101	1-126-963-11	ELECT 4.7MF	20%	50V
R680	1-247-815-91	CARBON 220	5%	1/4W	C201	1-126-933-11	ELECT 100MF	20%	16V
R681	1-208-800-11	METAL CHIP 5.6K	0.50%	1/10W	C202	1-126-964-11	ELECT 10MF	20%	50V
R682	1-216-687-11	METAL CHIP 33K	0.50%	1/10W	C203	1-163-038-91	CERAMIC CHIP 0.1MF	25V	
<b>R683</b>	<b>1-216-355-71</b>	<b>METAL OXIDE 3.3</b>	<b>5%</b>	<b>1W</b>	<b>C204</b>	<b>1-126-967-11</b>	<b>ELECT 47MF</b>	<b>20%</b>	<b>16V</b>
R684	1-249-429-11	CARBON 10K	5%	1/4W	C205	1-126-964-11	ELECT 10MF	20%	50V
R685	1-216-073-00	METAL GLAZE 10K	5%	1/10W	C206	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
R686	1-216-073-00	METAL GLAZE 10K	5%	1/10W	C207	1-124-903-11	ELECT 1MF	20%	50V
R687	1-208-806-11	METAL CHIP 10K	0.50%	1/10W	C208	1-124-903-11	ELECT 1MF	20%	50V
<b>R688</b>	<b>1-249-399-91</b>	<b>CARBON 33</b>	<b>5%</b>	<b>1/4W</b>	<b>C209</b>	<b>1-124-903-11</b>	<b>ELECT 1MF</b>	<b>20%</b>	<b>50V</b>
R689	1-247-807-31	CARBON 100	5%	1/4W	C210	1-126-963-11	ELECT 4.7MF	20%	50V
R690	1-216-029-00	METAL GLAZE 150	5%	1/10W	C211	1-126-935-11	ELECT 470MF	20%	16V
R692	1-216-085-00	METAL GLAZE 33K	5%	1/10W	C212	1-126-942-61	ELECT 1000MF	20%	25V
R693	1-208-806-11	METAL CHIP 10K	0.50%	1/10W	C213	1-163-038-91	CERAMIC CHIP 0.1MF	25V	
R694	1-216-073-00	METAL GLAZE 10K	5%	1/10W	C214	1-163-038-91	CERAMIC CHIP 0.1MF	25V	
R695	1-216-073-00	METAL GLAZE 10K	5%	1/10W	C217	1-163-038-91	CERAMIC CHIP 0.1MF	25V	
R696	1-216-089-91	METAL GLAZE 47K	5%	1/10W	C301	1-137-399-11	FILM 0.1MF	5%	50V
<b>&lt;VARIABLE RESISTOR&gt;</b>				C303	1-126-935-11	ELECT 470MF	20%	16V	
RV651	1-241-764-11	RES, ADJ, CERMET 10K		C304	1-126-964-11	ELECT 10MF	20%	50V	
<b>RV652</b>	<b>1-241-773-21</b>	<b>RES, ADJ, CERMET 47K</b>		C305	1-124-903-11	ELECT 1MF	20%	50V	
*****				C306	1-163-035-00	CERAMIC CHIP 0.047MF	50V		
<b>* A-1297-679-A A BOARD, COMPLETE (KV-9PT60)</b>				C307	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
*****				C308	1-124-902-00	ELECT 0.47MF	20%	50V	
*****				C309	1-163-099-00	CERAMIC CHIP 18PF	5%	50V	
*****				C310	1-126-965-11	ELECT 22MF	20%	50V	
*****				C311	1-130-489-00	FILM 0.033MF	5%	50V	
*****				C312	1-130-489-00	FILM 0.033MF	5%	50V	
<b>* A-1297-680-A A BOARD, COMPLETE (KV-9PT50)</b>				C313	1-130-489-00	FILM 0.033MF	5%	50V	
*****				C314	1-163-037-11	CERAMIC CHIP 0.022MF	10%	50V	
*****				C315	1-126-934-11	ELECT 220MF	20%	16V	
*****				C318	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
*****				C319	1-124-902-00	ELECT 0.47MF	20%	50V	
*****				C320	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	
*****				C321	1-163-005-11	CERAMIC CHIP 470PF	10%	50V	
*****				C322	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
*****				C323	1-163-007-11	CERAMIC CHIP 680PF	10%	50V	
*****				C324	1-124-903-11	ELECT 1MF	20%	50V	
<b>&lt;CAPACITOR&gt;</b>				C325	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C004	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	C326	1-137-370-11	FILM 0.01MF	5%	50V
C006	1-163-239-11	CERAMIC CHIP 33PF	5%	50V	C327	1-163-003-11	CERAMIC CHIP 330PF	10%	50V
C008	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	C328	1-124-902-00	ELECT 0.47MF	20%	50V
C010	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C329	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C011	1-163-239-11	CERAMIC CHIP 33PF	5%	50V	C330	1-163-005-11	CERAMIC CHIP 470PF	10%	50V
C012	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C332	1-136-169-00	FILM 0.22MF	5%	50V
C013	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	C333	1-136-169-00	FILM 0.22MF	5%	50V
C014	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	C334	1-137-372-11	FILM 0.022MF	5%	50V
C015	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	C335	1-124-903-11	ELECT 1MF	20%	50V
C016	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	C336	1-126-964-11	ELECT 10MF	20%	50V
C017	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C341	1-124-902-00	ELECT 0.47MF	20%	50V
C019	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C342	1-163-037-11	CERAMIC CHIP 0.022MF	10%	50V
C020	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C345	1-126-933-11	ELECT 100MF	20%	16V
C021	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C347	1-126-933-11	ELECT 100MF	20%	16V
C023	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	C348	1-163-129-00	CERAMIC CHIP 330PF	5%	50V
C024	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	C401	1-126-934-11	ELECT 220MF	20%	16V
C025	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	C402	1-124-903-11	ELECT 1MF	20%	50V
C027	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	C403	1-124-902-00	ELECT 0.47MF	20%	50V
C029	1-163-007-11	CERAMIC CHIP 680PF	10%	50V	C406	1-128-551-11	ELECT 22MF	20%	25V
C030	1-163-125-00	CERAMIC CHIP 220PF	5%	50V					

A

The components identified by shading and mark **Δ** are critical for safety.  
Replace only with part number specified.

Les composants identifiés par une trame et une marque **Δ** sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

REF. NO.	PART NO.	DESCRIPTION	REMARK
C407	1-128-551-11	ELECT	22MF 20% 25V
C408	1-126-964-11	ELECT	10MF 20% 50V
C410	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C413	1-163-009-11	CERAMIC CHIP	0.001MF 10% 50V
C418	1-163-031-11	CERAMIC CHIP	0.01MF 50V

C501	1-108-421-91	MYLAR	0.01MF 10% 200V
C502	1-104-799-11	ELECT	22MF 20% 50V
C503	1-163-003-11	CERAMIC CHIP	330PF 10% 50V
C504	1-130-489-00	FILM	0.033MF 5% 50V
C505	1-163-239-11	CERAMIC CHIP	33PF 5% 50V

C507	1-102-038-00	CERAMIC	0.001MF 500V
C508	1-102-038-00	CERAMIC	0.001MF 500V
C509	1-126-804-11	ELECT	100MF 20% 35V
C510	1-137-375-11	FILM	0.068MF 5% 50V
C511	1-126-963-11	ELECT	4.7MF 20% 50V

C512	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
C513	1-107-929-11	ELECT	10MF 20% 50V
C514	1-104-664-11	ELECT	47MF 20% 25V
C515	1-128-528-11	ELECT	470MF 20% 16V
C516	1-102-228-00	CERAMIC	470PF 10% 500V

C517	1-108-421-91	MYLAR	0.01MF 10% 200V
C518	1-107-913-11	ELECT	470MF 20% 50V
C519	1-102-228-00	CERAMIC	470PF 10% 500V
C520	1-107-652-11	ELECT	10MF 20% 250V
C521	1-102-228-00	CERAMIC	470PF 10% 500V

C522	1-111-119-11	ELECT	330MF 20% 50V
C523	1-104-493-11	FILM	2.7MF 3% 100V
C524	1-106-359-00	MYLAR	0.0047MF 10% 100V
C525	1-106-383-00	MYLAR	0.047MF 10% 100V
C527	1-104-799-11	ELECT	22MF 20% 50V

C528	1-107-635-11	ELECT	4.7MF 20% 160V
C530	1-104-664-11	ELECT	47MF 20% 25V
C531	1-104-664-11	ELECT	47MF 20% 25V
C554	1-115-405-11	FILM	0.039MF 3% 1KV
C555	1-162-116-91	CERAMIC	680PF 10% 2KV

C558	1-106-355-12	MYLAR	0.0033MF 10% 100V
C559	1-162-115-00	CERAMIC	330PF 10% 2KV
C575	1-107-904-11	ELECT	3.3MF 20% 50V
C579	1-106-379-12	MYLAR	0.033MF 10% 100V
C601	1-113-937-91	ELECT	0.0022MF 125V

C602	1-104-706-11	FILM	0.22MF 20% 250V
C603	1-104-706-11	FILM	0.22MF 20% 250V
C604	1-124-902-00	ELECT	0.47MF 20% 50V
C605	1-113-937-91	ELECT	0.0022MF 125V
C606	1-126-941-11	ELECT	470MF 20% 25V

C607	1-104-664-11	ELECT	47MF 20% 25V
C608	1-163-038-91	CERAMIC CHIP	0.1MF 25V
C609	1-115-434-11	ELECT	220MF 20% 200V
C610	1-164-646-11	CERAMIC	2200PF 10% 500V
C611	1-164-646-11	CERAMIC	2200PF 10% 500V

C612	1-136-169-00	FILM	0.22MF 5% 50V
C613	1-136-171-00	FILM	0.33MF 5% 50V
C614	1-136-169-00	FILM	0.22MF 5% 50V
C615	1-164-645-11	CERAMIC	1000PF 10% 500V
C616	1-126-964-11	ELECT	10MF 20% 50V

C617	1-126-964-11	ELECT	0.033MF 5% 50V
C618	1-130-489-00	FILM	0.033MF 5% 50V
C619	1-163-009-11	CERAMIC CHIP	0.001MF 10% 50V
C620	1-164-646-11	CERAMIC	2200PF 10% 500V
C621	1-164-646-11	CERAMIC	2200PF 10% 500V

C622	1-165-127-11	CERAMIC	470PF 10% 500V
C623	1-164-644-11	CERAMIC	470PF 10% 500V
C624	1-164-644-11	CERAMIC	330PF 10% 500V
C625	1-126-940-11	ELECT	330MF 20% 25V
C626	1-126-965-11	ELECT	22MF 20% 50V

C627	1-126-971-11	ELECT	470MF 20% 50V
C628	1-104-664-11	ELECT	47MF 20% 25V
C629	1-137-399-11	FILM	0.1MF 5% 50V
C630	1-126-965-11	ELECT	22MF 20% 50V

(KV-9PT60)

REF. NO.	PART NO.	DESCRIPTION	REMARK
C631	1-104-664-11	ELECT	47MF 20% 25V
C632	1-126-971-11	ELECT	470MF 20% 50V
C633	1-163-038-91	CERAMIC CHIP	0.1MF 25V
C634	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
C635	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
C636	1-113-937-91	ELECT	0.0022MF 125V
C637	1-164-644-11	CERAMIC	330PF 10% 500V
C638	1-113-937-91	ELECT	0.0022MF 125V
C639	1-113-941-11	ELECT	0.0047MF 125V
C641	1-129-718-00	FILM	0.022MF 5% 630V

## &lt;CONNECTOR&gt;

CN202	1-564-505-11	PLUG, CONNECTOR 2P	
CN401	* 1-560-124-00	PLUG, CONNECTOR (2.5MM) 4P	
CN501	* 1-508-766-00	PIN, CONNECTOR (5mm PITCH) 4P	
CN601	* 1-580-843-11	PIN, CONNECTOR (POWER) (KV-9PT60)	
CN602	1-508-786-00	PIN, CONNECTOR (5mm PITCH) 2P	
CN603	1-508-786-00	PIN, CONNECTOR (5mm PITCH) 2P	(KV-9PT60)
CN605	* 1-774-813-11	CONNECTOR, BOARD TO BOARD 7P	(KV-9PT60)
CN606	1-766-921-11	CONNECTOR, BOARD TO BOARD 10P	(KV-9PT60)

## &lt;DIODE&gt;

D001	8-719-045-18	DIODE LN021616PH	
D003	8-719-911-19	DIODE ISS119-25	
D201	8-719-110-72	DIODE RD30ESB2	
D302	8-719-109-84	DIODE RD5.1ESB1	
D303	8-719-105-99	DIODE RD6.2M-B1	
D304	8-719-105-99	DIODE RD6.2M-B1	
D305	8-719-105-99	DIODE RD6.2M-B1	
D402	8-719-110-17	DIODE RD10ESB2	
D403	8-719-911-19	DIODE ISS119-25	
D410	8-719-110-17	DIODE RD10ESB2	
D501	8-719-908-03	DIODE GP08D	
D502	8-719-908-03	DIODE GP08D	
D503	8-719-911-19	DIODE ISS119-25	
D504	8-719-302-43	DIODE EL1Z	
D505	8-719-911-19	DIODE ISS119-25	
D506	8-719-110-08	DIODE RD8.2ESB2	
D507	8-719-911-19	DIODE ISS119-25	
D508	8-719-300-33	DIODE RU-3AM	
D509	8-719-302-43	DIODE EL1Z	
D510	8-719-302-43	DIODE EL1Z	
D512	8-719-302-43	DIODE EL1Z	
D514	8-719-911-19	DIODE ISS119-25	
D601	8-719-911-19	DIODE ISS119-25	
D602	8-719-911-19	DIODE ISS119-25	
D603	8-719-911-19	DIODE ISS119-25	
D604	8-719-200-82	DIODE 11ES2	
D605	8-719-200-82	DIODE 11ES2	
D606	8-719-200-82	DIODE 11ES2	
D607	8-719-200-82	DIODE 11ES2	
D608	8-719-911-19	DIODE ISS119-25	
D609	8-719-911-19	DIODE ISS119-25	
D610	8-719-911-19	DIODE ISS119-25	
D611	8-719-058-90	DIODE D1NL20-TR2	
D612	8-719-109-90	DIODE RD5.6ESB3	
D613	8-719-058-90	DIODE D1NL20-TR2	
D614	8-719-032-12	DIODE D1NS6	
D615	8-719-032-12	DIODE D1NS6	
D616			

A

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark  are critical for safety.  
Replace only with part number specified.

The components identified by shading and mark **A** are critical for safety.  
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Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

• The components identified by **A** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

**A**

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK		
R065	1-216-073-00	METAL GLAZE 10K	5%	1/10W	R427	1-216-097-91	METAL GLAZE 100K	5%	1/10W
R067	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	R430	1-216-061-00	METAL GLAZE 3.3K	5%	1/10W
<b>R069</b>	<b>1-216-107-00</b>	<b>METAL GLAZE 270K</b>	<b>5%</b>	<b>1/10W</b>	R432	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R101	1-216-073-00	METAL GLAZE 10K	5%	1/10W	R435	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R201	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R436	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R202	1-216-061-00	METAL GLAZE 3.3K	5%	1/10W	R442	1-216-033-00	METAL GLAZE 220	5%	1/10W
R203	1-216-434-11	METAL OXIDE 1.8K	5%	1W F	R502	1-249-417-11	CARBON 1K	5%	1/4W
R204	1-216-081-00	METAL GLAZE 22K	5%	1/10W	R504	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R205	1-216-061-00	METAL GLAZE 3.3K	5%	1/10W	R506	1-249-415-11	CARBON 680	5%	1/4W
R206	1-216-689-11	METAL GLAZE 39K	5%	1/10W	R508	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R207	1-216-083-00	METAL GLAZE 27K	5%	1/10W	R509	1-216-101-00	METAL GLAZE 150K	5%	1/10W
R208	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	R510	1-249-420-11	CARBON 1.8K	5%	1/4W
R209	1-216-069-00	METAL GLAZE 6.8K	5%	1/10W	R511	1-216-089-91	METAL GLAZE 47K	5%	1/10W
R210	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	R512	1-208-806-11	METAL CHIP 10K	0.50%	1/10W
R211	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R513	1-216-645-11	METAL CHIP 560	0.50%	1/10W
<b>R212</b>	<b>1-249-389-91</b>	<b>CARBON 47</b>	<b>5%</b>	<b>1W F</b>	R515	1-208-806-11	METAL CHIP 10K	0.50%	1/10W
R213	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R516	1-216-351-00	METAL OXIDE 1.5	5%	1W F
R216	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R517	1-216-033-00	METAL GLAZE 220	5%	1/10W
R217	1-216-089-91	METAL GLAZE 47K	5%	1/10W	R518	1-216-661-11	METAL CHIP 2.7K	0.50%	1/10W
R271	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R519	1-215-453-00	METAL 22K	1%	1/4W
R272	1-216-037-00	METAL GLAZE 330	5%	1/10W	R520	1-216-651-11	METAL CHIP 1K	0.50%	1/10W
R273	1-216-037-00	METAL GLAZE 330	5%	1/10W	R521	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R301	1-216-073-00	METAL GLAZE 10K	5%	1/10W	R523	1-215-471-00	METAL 120K	1%	1/4W
R302	1-216-025-91	METAL GLAZE 100	5%	1/10W	R525	1-216-685-11	METAL CHIP 27K	0.50%	1/10W
R303	1-216-033-00	METAL GLAZE 220	5%	1/10W	R526	1-216-295-91	CONDUCTOR, CHIP		
R304	1-216-295-91	CONDUCTOR, CHIP			R527	1-208-814-11	METAL CHIP 22K	0.50%	1/10W
R307	1-216-073-00	METAL GLAZE 10K	5%	1/10W	<b>R531</b>	<b>1-216-153-71</b>	<b>METAL OXIDE 2.2</b>	<b>5%</b>	<b>1W F</b>
R311	1-216-678-11	METAL CHIP 13K	0.50%	1/10W	R532	1-216-697-91	METAL CHIP 82K	0.50%	1/10W
R312	1-216-079-00	METAL GLAZE 18K	5%	1/10W	R534	1-216-697-91	METAL CHIP 82K	0.50%	1/10W
R313	1-208-784-11	METAL CHIP 1.2K	0.50%	1/10W	R536	1-216-667-11	METAL CHIP 4.7K	0.50%	1/10W
R314	1-216-117-00	METAL GLAZE 680K	5%	1/10W	R538	1-215-861-00	METAL OXIDE 47	5%	1W F
R315	1-216-295-91	CONDUCTOR, CHIP			R543	1-216-699-11	METAL CHIP 100K	0.50%	1/10W
R323	1-216-121-91	METAL GLAZE 1M	5%	1/10W	R544	1-208-784-11	METAL CHIP 1.2K	0.50%	1/10W
R324	1-216-029-00	METAL GLAZE 150	5%	1/10W	R545	1-216-081-00	METAL GLAZE 22K	5%	1/10W
R325	1-216-073-00	METAL GLAZE 10K	5%	1/10W	R547	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R326	1-216-029-00	METAL GLAZE 150	5%	1/10W	R548	1-216-113-00	METAL GLAZE 470K	5%	1/10W
R327	1-216-077-00	METAL GLAZE 15K	5%	1/10W	<b>R549</b>	<b>1-216-165-71</b>	<b>METAL OXIDE 0.47</b>	<b>5%</b>	<b>2W F</b>
R328	1-216-029-00	METAL GLAZE 150	5%	1/10W	R554	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R333	1-216-295-91	CONDUCTOR, CHIP			R555	1-215-890-11	METAL OXIDE 470	5%	2W F
R334	1-216-295-91	CONDUCTOR, CHIP			R557	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R336	1-216-129-00	METAL GLAZE 2.2M	5%	1/10W	R558	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R338	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R559	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R339	1-249-415-11	CARBON 680	5%	1/4W	R560	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R341	1-216-687-11	METAL CHIP 33K	0.50%	1/10W	R563	1-215-860-11	METAL OXIDE 33	5%	1W F
R343	1-216-071-00	METAL GLAZE 8.2K	5%	1/10W	<b>R601</b>	<b>1-219-238-91</b>	<b>SOLID</b> 4.7M	<b>20%</b>	<b>1/2W</b>
R345	1-216-073-00	METAL GLAZE 10K	5%	1/10W	R602	1-249-401-11	CARBON 47	5%	1/4W
R346	1-216-069-00	METAL GLAZE 6.8K	5%	1/10W	R603	1-219-785-11	WIREWOUND 2.2	5%	5W
R347	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	<b>R604</b>	<b>1-260-288-71</b>	<b>CARBON 0.47</b>	<b>5%</b>	<b>1/2W</b>
R351	1-216-061-00	METAL GLAZE 3.3K	5%	1/10W	R605	1-260-072-11	CARBON 4.7	5%	1/2W
R356	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R606	1-247-891-00	CARBON 330K	5%	1/4W
R360	1-216-041-00	METAL GLAZE 470	5%	1/10W	R607	1-249-401-11	CARBON 47	5%	1/4W
R365	1-249-417-11	CARBON 1K	5%	1/4W F	R608	1-202-719-00	SOLID 1M	20%	1/2W
R367	1-216-109-00	METAL GLAZE 330K	5%	1/10W	R609	1-247-891-00	CARBON 330K	5%	1/4W
R401	1-216-022-00	METAL GLAZE 75	5%	1/10W	R610	1-247-891-00	CARBON 330K	5%	1/4W
R402	1-216-047-91	METAL GLAZE 820	5%	1/10W	<b>R611</b>	<b>1-212-849-61</b>	<b>FUSIBLE</b> 4.7	<b>5%</b>	<b>1/4W F</b>
R403	1-216-055-00	METAL GLAZE 1.8K	5%	1/10W	R612	1-249-401-11	CARBON 47	5%	1/4W
R404	1-216-067-00	METAL GLAZE 5.6K	5%	1/10W	R613	1-249-401-11	CARBON 47	5%	1/4W
R405	1-216-097-91	METAL GLAZE 100K	5%	1/10W	<b>R614</b>	<b>1-249-377-91</b>	<b>CARBON 0.47</b>	<b>5%</b>	<b>1/4W F</b>
R406	1-216-047-91	METAL GLAZE 820	5%	1/10W	R619	1-260-072-11	CARBON 4.7	5%	1/2W
R407	1-216-055-00	METAL GLAZE 1.8K	5%	1/10W	R620	1-249-430-11	CARBON 12K	5%	1/4W
R409	1-216-025-91	METAL GLAZE 100	5%	1/10W	R621	1-260-099-11	CARBON 1K	5%	1/2W
R410	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	R622	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R415	1-216-089-91	METAL GLAZE 47K	5%	1/10W	R623	1-249-429-11	CARBON 10K	5%	1/4W
R416	1-216-033-00	METAL GLAZE 220	5%	1/10W	R624	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R418	1-216-295-91	CONDUCTOR, CHIP			R625	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R419	1-216-295-91	CONDUCTOR, CHIP			R626	1-216-097-91	METAL GLAZE 100K	5%	1/10W
R422	1-216-089-91	METAL GLAZE 47K	5%	1/10W	R627	1-216-657-11	METAL CHIP 1.8K	0.50%	1/10W
R423	1-216-081-00	METAL GLAZE 22K	5%	1/10W	R628	1-249-415-11	CARBON 680	5%	1/4W
R425	1-216-073-00	METAL GLAZE 10K	5%	1/10W	R629	1-249-415-11	METAL CHIP 24K		1/10W
R426	1-216-061-00	METAL GLAZE 3.3K	5%	1/10W					

**A****C**

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REF. NO.	PART NO.	DESCRIPTION	REMARK
R630	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R631	1-216-345-71	METAL OXIDE 0.47	5% 1W F
R632	1-249-377-91	CARBON 0.47	5% 1/4W F
R633	1-216-073-00	METAL GLAZE 10K	5% 1/10W (KV-9PT60)
R634	1-216-073-00	METAL GLAZE 10K	5% 1/10W (KV-9PT60)
R635	1-216-073-00	METAL GLAZE 10K	5% 1/10W (KV-9PT60)
R636	1-247-891-00	CARBON 330K	5% 1/4W
R639	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W
R640	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R644	1-216-355-71	METAL OXIDE 3.3	5% 1W F

## &lt;VARIABLE RESISTOR&gt;

█ RV601 ▲ 1-241-773-21 RES. ADJ. CERMET 47K

## &lt;SWITCH&gt;

S001	1-692-431-21	SWITCH, TACTILE
S002	1-570-577-11	SWITCH, PUSH
S004	1-570-577-11	SWITCH, PUSH
S006	1-692-431-21	SWITCH, TACTILE

## &lt;TRANSFORMER&gt;

T504	1-453-206-11	FBT ASSY. NX-1745/X4F4
T551	1-429-411-11	TRANSFORMER, HORIZONTAL DRIVE
T601	1-409-995-11	FILTER, LINE
T603	1-429-433-11	TRANSFORMER, CONVERTER (PIT)
T604	1-427-864-12	TRANSFORMER, CONVERTER (PRT)

## &lt;THERMISTOR&gt;

THP601 1-800-686-31 THERMISTOR (POSITIVE)

## &lt;TUNER&gt;

TU101 8-598-339-00 TUNER BTF-LA402

## &lt;VARISTOR&gt;

VDR602 1-810-053-11 VARISTOR

## &lt;CRYSTAL&gt;

X001 1-567-192-11 OSCILLATOR, CERAMIC  
X301 1-760-190-41 VIBRATOR, CRYSTAL

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\* A-1331-511-A C BOARD, COMPLETE  
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4-382-854-11 SCREW (M3X10), P, SW (+)

## &lt;CAPACITOR&gt;

C701	1-102-050-00	CERAMIC 0.01MF	500V
C703	1-162-114-00	CERAMIC 0.0047MF	2KV
C706	1-128-551-11	ELECT 22MF	20% 25V
C708	1-102-228-00	CERAMIC 470PF	10% 500V
C712	1-163-007-11	CERAMIC CHIP 680PF	10% 50V
C732	1-163-007-11	CERAMIC CHIP 680PF	10% 50V
C752	1-163-007-11	CERAMIC CHIP 680PF	10% 50V
C771	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
C772	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
C773	1-163-005-11	CERAMIC CHIP 470PF	10% 50V

REF. NO.	PART NO.	DESCRIPTION	REMARK
<CONNECTOR>			

CN701 1-695-915-11 TAB (CONTACT)  
CN704 1-695-915-11 TAB (CONTACT)

## &lt;DIODE&gt;

D770	8-719-911-19	DIODE 1SS119-25
D771	8-719-911-19	DIODE 1SS119-25
D772	8-719-911-19	DIODE 1SS119-25
D773	8-719-911-19	DIODE 1SS119-25
D777	8-719-109-72	DIODE RD3.9ESB2

D790	8-719-911-19	DIODE 1SS119-25
D791	8-719-911-19	DIODE 1SS119-25
D792	8-719-911-19	DIODE 1SS119-25

J701 1-526-958-71 SOCKET, PICTURE TUBE

## &lt;COIL&gt;

L701 1-410-478-11 INDUCTOR 47UH

## &lt;TRANSISTOR&gt;

Q711	8-729-326-11	TRANSISTOR 2SC2611
Q731	8-729-326-11	TRANSISTOR 2SC2611
Q751	8-729-326-11	TRANSISTOR 2SC2611
Q770	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q771	8-729-200-17	TRANSISTOR 2SA1091-O

Q772	8-729-200-17	TRANSISTOR 2SA1091-O
Q773	8-729-200-17	TRANSISTOR 2SA1091-O

REF. NO.	PART NO.	DESCRIPTION	REMARK
R700	1-260-087-11	CARBON 100	5% 1/2W
R701	1-260-135-11	CARBON 1M	5% 1/2W
R703	1-260-103-11	CARBON 2.2K	5% 1/2W
R704	1-216-398-71	METAL OXIDE 5.6	5% 3W F
R710	1-260-103-11	CARBON 2.2K	5% 1/2W

R711	1-216-025-91	METAL GLAZE 100	5% 1/10W
R712	1-215-898-11	METAL OXIDE 10K	5% 2W F
R714	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R716	1-216-037-00	METAL GLAZE 330	5% 1/10W
R730	1-260-103-11	CARBON 2.2K	5% 1/2W

R731	1-216-025-91	METAL GLAZE 100	5% 1/10W
R732	1-215-898-11	METAL OXIDE 10K	5% 2W F
R734	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R736	1-216-035-00	METAL GLAZE 270	5% 1/10W
R750	1-260-103-11	CARBON 2.2K	5% 1/2W

R751	1-216-025-91	METAL GLAZE 100	5% 1/10W
R752	1-215-898-11	METAL OXIDE 10K	5% 2W F
R754	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R756	1-216-035-00	METAL GLAZE 270	5% 1/10W
R770	1-247-881-00	CARBON 120K	5% 1/4W

R774	1-249-437-11	CARBON 47K	5% 1/4W
R775	1-249-417-11	CARBON 1K	5% 1/4W
R776	1-247-815-91	CARBON 220	5% 1/4W
R790	1-216-041-00	METAL GLAZE 470	5% 1/10W
R791	1-216-041-00	METAL GLAZE 470	5% 1/10W

MISCELLANEOUS
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A 1-411-754-11	COIL, DEMAGNETIC
1-452-760-11	NECK ASSEMBLY (NA221)
1-505-226-11	SPEAKER (8CM)
1-526-945-11	INLET PT (KV-9PT60)

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REF. NO.	PART NO.	DESCRIPTION	REMARK
	1-766-374-11	PLUG, F-PIN	
	1-900-217-43	READ ASSY, FOCUS	
	1-900-217-44	READ ASSY, SCREEN	
$\Delta$	8-451-450-11	DEFLECTION YOKE Y10SLA	
$\Delta$	8-735-822-05	PICTURE TUBE 10SL (A23LDU10X)	

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**ACCESSORIES AND PACKING MATERIALS**  
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X-4033-201-1 BRACKET ASSY (KV-9PT50)  
 1-501-813-11 ANTENNA, TELESCOPIC (KV-9PT60)  
 1-501-813-21 ANTENNA, TELESCOPIC (KV-9PT50)  
 1-574-085-11 CORD, POWER (KV-9PT60)  
 1-751-198-21 CORD, CAR BATTERY (KV-9PT60)  
 1-776-846-11 CORD, POWER (KV-9PT50)  
 3-701-627-00 BAG, POLYETHYLENE  
 3-810-578-11 MANUAL, INSTRUCTION  
 3-810-578-21 MANUAL, INSTRUCTION (Canadian Model)  
 \* 4-046-206-01 BAG, POLYETHYLENE  
 \* 4-052-136-01 INDIVIDUAL CARTON (KV-9PT50)  
 \* 4-052-137-01 TRAY (KV-9PT50)  
 \* 4-052-138-01 INDIVIDUAL CARTON (KV-9PT60)  
 \* 4-052-140-01 CUSHION (UPPER) (ASSY)  
 \* 4-052-141-01 CUSHION (LOWER) (ASSY)  
 \* 4-052-146-01 BAG, PROTECTION  
 4-052-214-01 FOOT (KV-9PT50)  
 4-052-216-01 SCREW (L) (M6X70) (KV-9PT50)  
 4-052-217-01 SCREW (S) (M6X40) (KV-9PT50)  
 4-052-218-01 NUT, M6 (KV-9PT50)  
 4-052-586-01 SPACER (KV-9PT50)  
 4-052-587-01 WASHER (KV-9PT50)  
 \* 4-053-148-01 BAG, POLYETHYLENE (KV-9PT50)  
 4-053-225-01 PALLET (KV-9PT60)  
 4-053-227-01 PALLET (KV-9PT50)  
 7-651-303-43 TAPE, PP (T=90U) (75MMX500M)  
 7-685-648-79 SCREW +BVTP 3X12 TYPE2 IT-3  
 (KV-9PT50)

**REMOTE COMMANDER**  
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1-466-966-11 REMOTE COMMANDER (RM-Y116)  
 (KV-9PT60)  
 9-903-826-01 POCKET, COVER (FOR RM-Y116)  
 (KV-9PT60)  
 1-466-966-41 REMOTE COMMANDER (RM-Y116)  
 (KV-9PT50)  
 9-903-826-01 POCKET, COVER (FOR RM-Y116)  
 (KV-9PT50)

